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NanoChrom

Chromatography Consumables

Product Catalog

2025-2026

Better Separation
with NanoChrom

NanoChrom Technologies

http://www.nanochrom.com

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About Company

NanoChrom Technologies (NanoChrom) is a technology-driven company specializing in the design, development, and manufacturing of chromatography consumables and related products. Our solutions cater to a diverse array of industries, including pharmaceuticals, biotechnology, food and beverage, environmental, and chemicals.

In addition to our product offerings, we provide extensive support services, including technical training, product assistance, and the development of custom-made solutions. We actively collaborate with our customers to address and overcome complex separation challenges.

NanoChrom is supported by a team of world-class experts in chromatography separations, synthetic chemistry, and materials science, all committed to pioneering advancements in separation science. Our experienced leadership team is dedicated to delivering a clear vision and strong commitment to exceptional customer service.

We are driven to innovate and lead in the field of separation science, ensuring that our products and services meet the highest standards of quality and performance to solve the intricate separation needs of our customers.

BioCore Columns
for proteins/antibodies

DNACore Columns
for oligonucleotides/AAVs

ChromCore Columns
for small molecules

ChiralCore Columns
for enantiomers

SelectCore Products
for sample preparation

NanoChrom BP GC Columns
for volatile substances

NanoChrom Technologies (Suzhou) Co., Ltd

Better Separation with NanoChrom

Mission Achieve Better Separation

Vision Be a Trusted Expert in Chromatography Separation

Core Values Innovation, Quality and Collaboration

Key Technology

HPLC column technology comprises three fundamental aspects: substrate particle, surface bonding chemistry, and functional group. NanoChrom's technological advantages are evident in each of these areas:

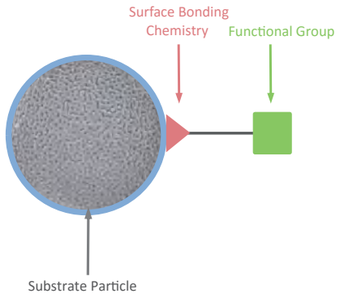


Figure 1. Key Components of Column Technology

Substrate Particle:

Advanced Materials: Utilization of high-quality substrate particles ensures superior mechanical stability and optimal chromatographic performance.

Surface Bonding Chemistry:

Precision Bonding: Employing cutting-edge surface bonding techniques enhances the durability and efficiency of the columns, providing consistent and reproducible results.

Functional Group:

Innovative Functionalization: Incorporation of tailored functional groups improves selectivity and sensitivity, catering to diverse analytical requirements.

NanoChrom's expertise and innovation in these fundamental aspects underscore its commitment to excellence in HPLC column technology.

01 Substrate Particle

Substrate particles form the foundation of mechanical and chemical stability in liquid chromatography (LC) columns. NanoChrom's LC columns utilize cutting-edge particle technology to ensure superior performance:

UniPS Polymer Particle

UniPS represents a family of monodispersed, spherical, highly crosslinked divinylbenzene (DVB) particles with precisely controlled particle size, pore structure, and surface area. These particles are manufactured with innovative industrial-scale processes (See **Figure 2**). Compared to their poly-dispersed counterparts prepared with traditional processes, this approach results in superior efficiency, consistency, and physical and chemical stability, making UniPS particles suitable for LC applications.

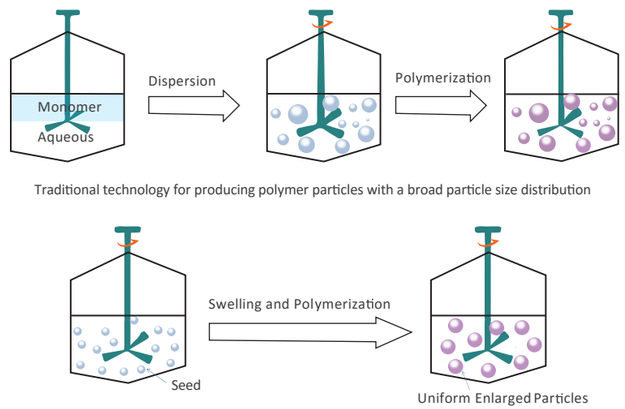


Figure 2. UniPS Polymer Particle Technology

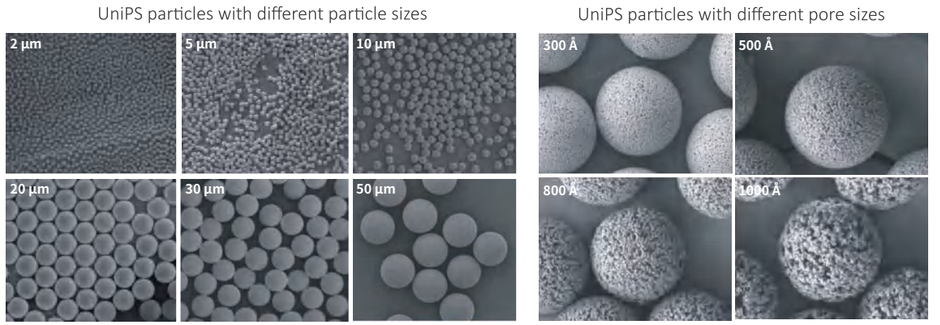


Figure 3. SEM Images of UniPS Polymer Particles

UniSil Silica Particle

UniSil comprises a family of monodispersed, spherical silica particles with precisely controlled particle size, pore structure, and surface area. Manufactured through innovative industrial-scale processes known as the "template process" , this technology involves three key steps:

Step 1. Template Formation: Creating monodispersed, porous, spherical polymer particles.

Step 2. Hybridization: Using the polymer particles as templates, filling the pores with silica nanoparticles to form monodispersed silica/polymer hybrid particles.

Step 3. Calcination: Treating the hybrid particles at high temperatures to remove the organic components, resulting in monodispersed, porous silica particles.

Compared to silica particles produced by traditional Sol-Gel processes, UniSil particles offer higher column efficiency, increased mechanical strength, and improved chemical stability, making them ideal substrates for liquid chromatography applications.

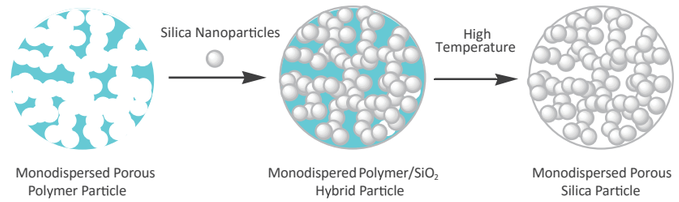


Figure 4. UniSil Silica Particle Technology

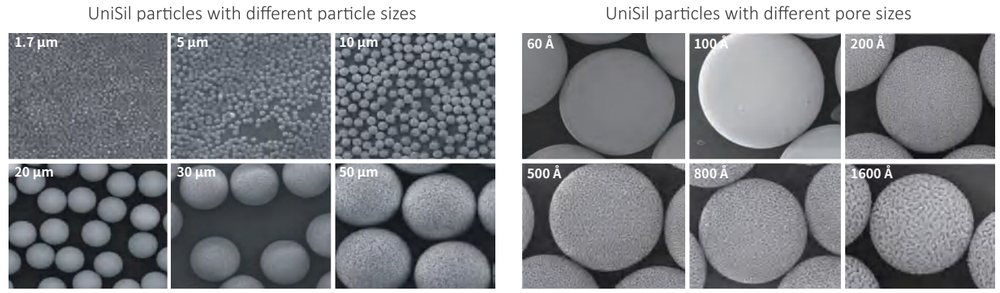


Figure 5. SEM Images of UniSil Silica Particles

02 Surface Bonding Chemistry

Column chemistry significantly influences column selectivity, a critical factor in separation performance. Two key aspects of column chemistry are surface bonding chemistry and functional group selection. Surface bonding chemistry impacts surface coverage and chemical stability. Depending on specific requirements and intended use, the following types of surface bonding chemistry are employed in the manufacturing processes of silica-based ChromCore columns:

1. **Single-Point Si-O-Si Attachment:** Consistent performence with good stability.
2. **Multiple-Point Si-O-Si Attachment:** Good surface coverage and chemical stability with enhanced shape selectivity.
3. **Sterically Hindered Single-Point Si-O-Si Attachment:** Excellent low-pH stability with unique selectivity.
4. **Organic-Inorganic Hybrid Surface Combined with Multiple-Point Si-O-Si Attachment:** Enhanced chemical stability in a broad pH range.

These diverse bonding techniques enable the creation of highly stable and efficient LC columns tailored to various analytical needs.

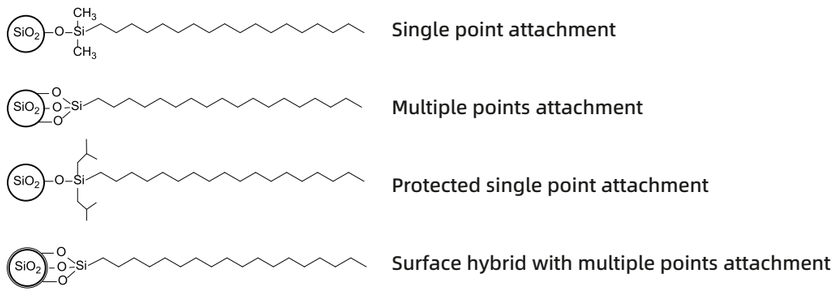


Figure 6. Silica Surface Bonding Chemistry

03 Column Functionality

The functional group is the primary determinant of column selectivity. Common classifications of functional groups include reversed phase (RP), normal phase (NP), hydrophilic interaction chromatography (HILIC), ion-exchange (IEX), size exclusion chromatography (SEC), ion exclusion chromatography (ICE), and affinity chromatography (AC).

The ChromCore column family offers a variety of functionalities to cover a broad range of selectivities.

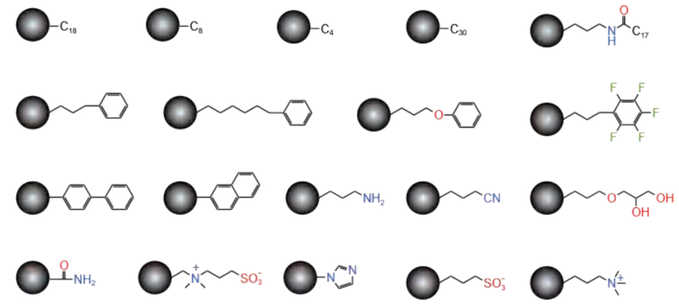


Figure 7. ChromCore Column Functional Groups

For biologics, such as monoclonal antibodies, column chemistry is critical in ensuring the desired selectivity while minimizing non-specific interaction between the substrate and analytes.

BioCore bio-separation columns employ an innovative technology that involves the formation of a neutral hydrophilic layer on the substrate surface, onto which selected functionalities are grafted.

Beyond the type of functional group, the amount and distribution of these functional groups significantly impact column selectivity, peak shape, and recovery. The column chemistry for BioCore columns are illustrated in **Figure 8**.

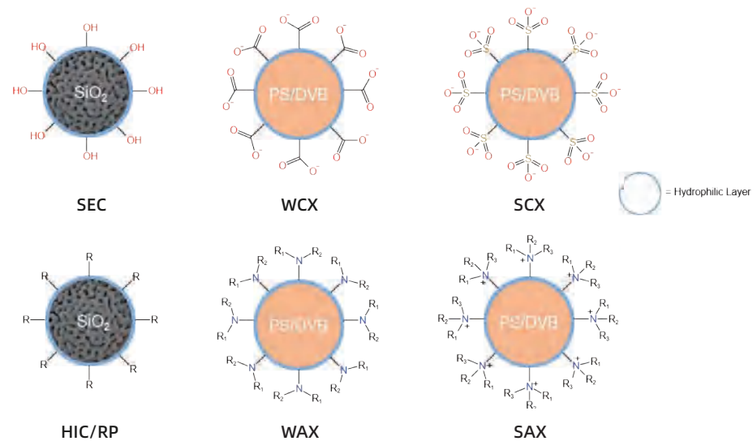


Figure 8. BioCore Column Functional Groups

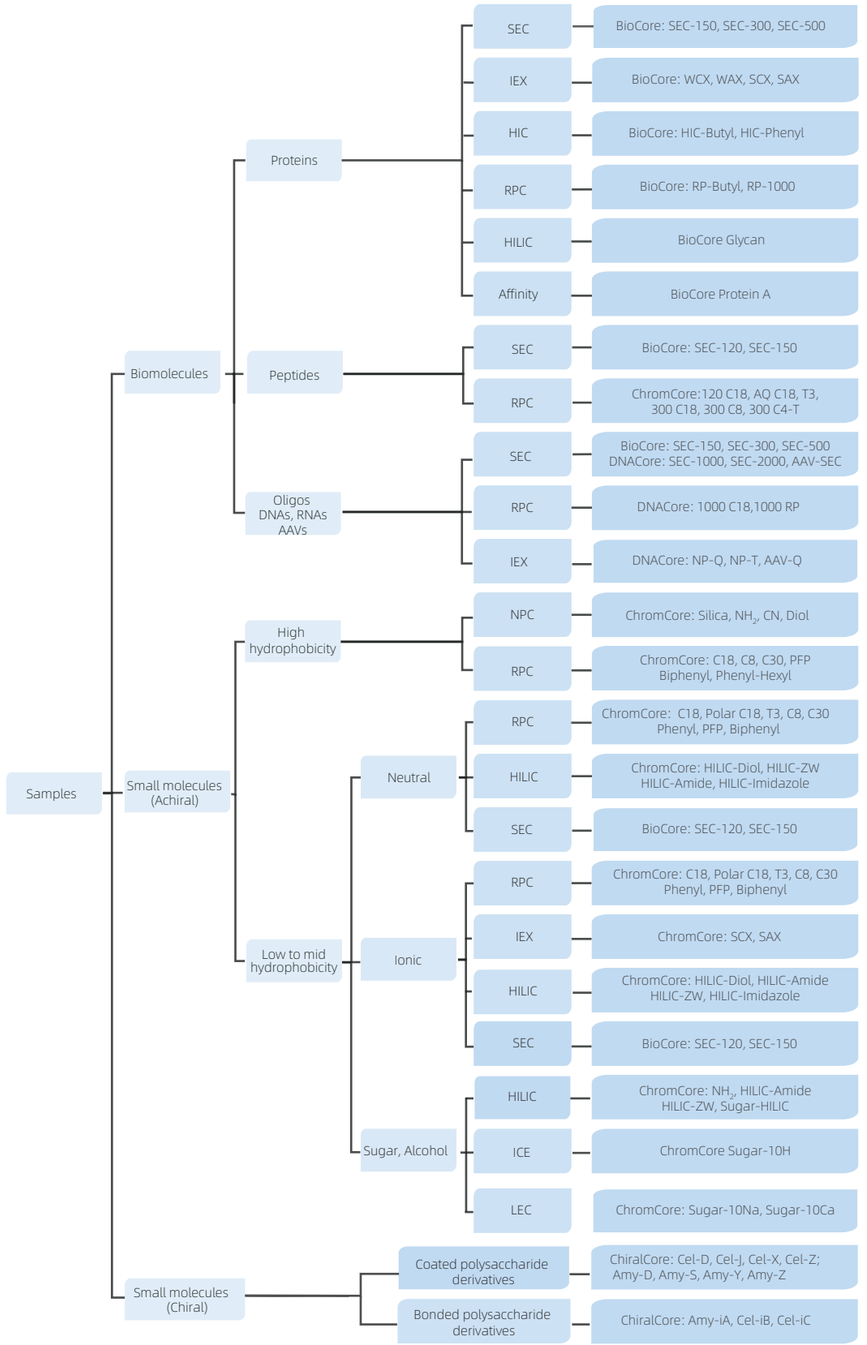
HPLC Column Technology

USP Listing

USP Listing	Packing	Product Name
L1	Octadecyl silane chemically bonded to porous or non-porous silica or ceramic micro-particles, 1.5 to 10 µm in diameter, or a monolithic rod.	ChromCore 120 C18 ChromCore AQ C18 ChromCore AR C18 ChromCore BR C18 ChromCore T3 ChromCore 120 C18-T ChromCore 300 C18 DNACore 1000 C18
L3	Porous silica particles, 1.5 to 10 µm in diameter, or a monolithic silica rod.	ChromCore Silica
L7	Octylsilane chemically bonded to totally or superficially porous silica particles, 1.5 to 10 µm in diameter, or a monolithic silica rod.	ChromCore 120 C8 ChromCore AQ C8 ChromCore 300 C8
L8	An essentially monomolecular layer of aminopropylsilane chemically bonded to totally porous silica gel support, 1.5 to 10 µm in diameter, or a monolithic silica rod.	ChromCore NH_2
L9	Irregular or spherical, totally porous silica gel having a chemically bonded, strongly acidic cation-exchange coating, 3 to 10 µm in diameter.	ChromCore SCX ChromCore 300 SCX
L10	Nitrile groups chemically bonded to porous silica particles, 1.5 to 10 µm in diameter, or a monolithic silica rod.	ChromCore CN
L11	Phenyl groups chemically bonded to porous silica particles, 1.5 to 10 µm in diameter, or a monolithic silica rod.	ChromCore Phenyl ChromCore Biphenyl ChromCore Phenyl-Ether ChromCore Phenyl-Hexyl
L14	Silica gel having a chemically bonded strongly basic quaternary ammonium anion-exchange coating, 5 to 10 µm in diameter.	ChromCore SAX ChromCore 300 SAX
L17	Strong cation-exchange resin consisting of sulfonated cross-linked styrene-divinylbenzene copolymer in the hydrogen form, 6 to 12 µm in diameter.	ChromCore Sugar-10H
L19	Strong cation-exchange resin consisting of sulfonated cross-linked styrene-divinylbenzene copolymer in the calcium form, 5 - 15 µm in diameter.	ChromCore Sugar-10Ca
L20	Dihydroxypropane groups chemically bonded to porous silica or hybrid particles, 1.5 to 10 µm in diameter, or a monolithic silica rod.	BioCore SEC-120 BioCore SEC-150 BioCore SEC-300 BioCore SEC-500 DNACore AAV-SEC DNACore SEC-1000 DNACore SEC-2000 ChromCore HILIC-Diol
L26	Butyl silane chemically bonded to totally porous or superficially porous silica particles, 1.5 to 10 µm in diameter.	ChromCore 300 C4-T
L33	Packing having the capacity to separate dextrans by molecular size over a range of 4,000 to 500,000 Da. It is spherical, silica-based, and processed to provide pH stability.	BioCore SEC-120 BioCore SEC-150 BioCore SEC-300
L40	Cellulose tris-3,5-dimethylphenylcarbamate coated porous silica particles, 3 µm to 20 µm in diameter.	ChiralCore Cel-D
L43	Pentafluorophenyl groups chemically bonded to silica particles by a propyl spacer, 1.5 to 10 µm in diameter.	ChromCore PFP
L51	Amylose tris-3,5-dimethylphenylcarbamate-coated, porous, spherical, silica particles, 3 to 10 µm in diameter.	ChiralCore Amy-D
L58	Strong cation-exchange resin consisting of sulfonated cross-linked styrene-divinylbenzene copolymer in the sodium form, about 6 to 30 µm diameter.	ChromCore Sugar-10Na
L60	Spherical, porous silica gel, 10 µm or less in diameter, the surface of which has been covalently modified with alkyl amide groups and endcapped.	ChromCore Polar C18
L62	C30 silane bonded phase on a fully porous spherical silica, 3 to 15 µm in diameter.	ChromCore C30
L68	Spherical, porous silica, 10 µm or less in diameter, the surface of which has been covalently modified with alkyl amide groups and not endcapped.	BioCore Glycan ChromCore HILIC-Amide ChromCore Sugar-HILIC
L78	A silane ligand that consists of both reversed-phase (an alkyl chain longer than C8) and anion-exchange (primary, secondary, tertiary, or quartenary amino groups) functional groups chemically bonded to porous or non-porous silica or ceramic micro-particles, 1.0 to 50 µm in diameter, or a monolithic rod.	ChromCore SAA
L80	Cellulose tris(4-methylbenzoate)-coated, porous, spherical, silica particles, 5 to 20 µm in diameter.	ChiralCore Cel-J
L90	Amylose tris-[(S)-alpha-methylbenzylcarbamate] coated on porous, spherical silica particles, 3 to 10 µm in diameter.	ChiralCore Amy-S
L114	Sulfobetaine graft polymerized to totally or superficially porous silica, 1.5 to 10 µm in diameter, or a monolithic rod. Packing having densely bonded zwitterionic groups with 1:1 charge balance.	ChromCore HILIC-ZW
L118	Aqueous polymerized C18 groups on silica particles, 1.2 to 5 µm in diameter.	ChromCore PAH

Selection Guide

By Application



Selection Guide

By Brand

USP Listing	NanoChrom	Recommended alternative to different brand			
		Waters	Agilent	Thermo	Phenomenex
L1	ChromCore 120 C18	Symmetry C18 Sunfire C18	ZORBAX Eclipse Plus C18 ZORBAX Eclipse XDB-C18	Acclaim 120 C18 Syncronis C18	Luna C18(2) Luna Omega C18
	ChromCore AQ C18	Symmetry C18 Sunfire C18	ZORBAX Eclipse Plus C18 ZORBAX Eclipse XDB-C18	Hypersil GOLD AQ Hypersil GOLD Syncronis aQ	Luna C18(2) Luna Omega C18 Luna Omega Polar C18
	ChromCore T3	Atlantis T3 HSS T3	Poroshell 120 Aq-C18	/	/
	ChromCore AR C18	/	ZORBAX SB C18	/	/
	ChromCore BR C18	/	ZORBAX Extend-C18	/	Gemini C18
	ChromCore 120 C18-T	/	/	/	/
	ChromCore 300 C18	Symmetry 300 C18	ZORBAX SB 300 C18	Acclaim 300 C18	Jupiter 300 C18
	EcoPak 120 C18 Plus	Symmetry C18 Sunfire C18	ValueLab LC C18-HD	BETASIL C18	/
L60	ChromCore Polar C18	Symmetry Shield RP 18	ZORBAX Bonus-RP Polaris C18 Amide	Acclaim Polar Advantage II	Synergi Fusion-RP
L7	ChromCore 120 C8	Symmetry C8 Sunfire C8	ZORBAX Eclipse Plus C8 ZORBAX Eclipse XDB-C8	Acclaim 120 C8 Hypersil GOLD C8 Syncronis C8	Luna C8(2)
	ChromCore AQ C8	Symmetry C8 Sunfire C8	ZORBAX Eclipse Plus C8 ZORBAX Eclipse XDB-C8	Acclaim 120 C8 Hypersil GOLD C8 Syncronis C8	Luna C8(2)
	ChromCore 300 C8	Symmetry 300 C8	ZORBAX SB 300 C8	/	/
L26	ChromCore 300 C4-T	Symmetry 300 C4	/	/	Jupiter 300 C4
L11	ChromCore Phenyl	Spherisorb Phenyl	ZORBAX Eclipse Phenyl ZORBAX Eclipse XDB-Phenyl ZORBAX Original Phenyl	Syncronis Phenyl Hypersil BDS Phenyl Hypersil GOLD Phenyl Hypersil Phenyl-2	Bondclone Phenyl
	ChromCore Phenyl-Hexyl	/	ZORBAX Eclipse Phenyl-Hexyl	BETASIL Phenyl-Hexyl	Luna Phenyl-Hexyl Gemini C6-Phenyl
	ChromCore Biphenyl	/	/	Accucore Biphenyl	/
	ChromCore Phenyl-Ether	/	/	/	Synergi Polar-RP
L43	ChromCore PFP	HSS PFP	Pursuit PFP	Hypersil GOLD PFP	Luna PFP(2)
L62	ChromCore C30	/	/	Acclaim C30	Develosil RP-Aqueous
L3	ChromCore Silica	SunFire Silica	ZORBAX HILIC Plus ZORBAX Original Si	Hypersil GOLD Silica Syncronis silica	Luna Silica(2)
L8	ChromCore NH_2	Spherisorb NH_2	ZORBAX Original NH_2	Hypersil GOLD Amino Syncronis amino	Luna NH_2 IB-SIL Amino
L10	ChromCore CN	Spherisorb CN	ZORBAX XDB-CN ZORBAX Original CN	Hypersil CPS Hypersil GOLD CN	Luna CN
L20	ChromCore HILIC-Diol	/	/	BETASIL Diol	Luna HILIC
/	ChromCore HILIC-Imidazole	/	/	/	/
L68	ChromCore HILIC-Amide	XBridge BEH Amide	/	/	/
L122	ChromCore HILIC-ZW	Atlantis Premier BEH ZHILIC	Poroshell 120 HILIC-Z	Syncronis HILIC	/
L9	ChromCore SCX	Spherisorb SCX	/	BioBasic SCX	Luna SCX
	ChromCore 300 SCX	/	ZORBAX 300 SCX	/	/
L14	ChromCore SAX	Spherisorb SAX	ZORBAX SAX	Hypersil GOLD SAX Hypersil SAX	PhenoSphere SAX
	ChromCore 300 SAX	/	/	/	/
L118	ChromCore PAH	PAH C18	ZORBAX Eclipse PAH	Hypersil Green PAH	Venusil PAH
L17	ChromCore Sugar-10H	IC-Pak Cation IC-Pak Ion Exclusion	Hi-Plex H	HyperREZ XP Carbohydrate H^+	Rezex ROA-Organic Acid RHM-Monosaccharide
L19	ChromCore Sugar-10Ca	Sugar-Pak 1	Hi-Plex Ca	HyperREZ XP Carbohydrate Ca^{2+}	/
L58	ChromCore Sugar-10Na	/	Hi-Plex Na	HyperREZ XP Carbohydrate Na^+	/

NanoChrom	Recommended alternative to different brand				
	TOSOH	Thermo	Waters	Sepax	Agilent
BioCore SEC-120	/	BioBasic PREP SEC 120	/	/	AdvanceBio SEC, 120Å
BioCore SEC-150	TSKGel G2000 SW_{XL} BioAssist G2SW_{XL} Super SW2000	/	Protein BEH SEC, 125Å	SRT SEC-150 SRT-C SEC-150 Zenix SEC-150 Zenix-C SEC-150 Unix SEC-200	Bio SEC-5, 150Å Bio SEC-3, 150Å AdvanceBio SEC, 130Å
BioCore SEC-300	TSKGel G3000 SW_{XL} Super SW3000 Super mAb HTP Super mAb HR UltraSW mAb Aggregate UP-SW3000	MAbPac SEC-1 BioBasic PREP SEC 300	XBridge Prm Pro SEC, 250Å Protein BEH SEC, 200Å BioResolve SEC, 200Å	SRT SEC-300 SRT-C SEC-300 Zenix SEC-300 Zenix-C SEC-300 Unix SEC-300	Bio SEC-5, 300Å Bio SEC-3, 300Å AdvanceBio SEC, 300Å
BioCore SEC-500	TSKGel G4000 SW_{XL} BioAssist G4000 SW_{XL}	/	Protein BEH SEC, 450Å	SRT SEC-500 SRT-C SEC-500	Bio SEC-5, 500Å
BioCore WCX	TSKgel CM-STAT	ProPac WCX-10 ProPac Elite WCX	BioSuite CM	Proteomix WCX	Bio WCX
BioCore SCX	TSKgel SP-STAT	ProPac SCX-10 ProPac SCX-20 MAbPac SCX-10 ProPac 3R SCX	BioSuite SP BioResolve SCX	Proteomix SCX	Bio SCX
BioCore WAX	/	ProPac WAX-10	BioSuite DEAE	Proteomix WAX	Bio WAX
BioCore SAX	TSKgel Q-STAT	ProPac SAX-10 ProPac 3R SAX	BioSuite Q	Proteomix SAX	Bio SAX
BioCore HIC-Butyl	TSKgel Butyl-NPR TSKgel HIC-ADC Butyl	MAbPac HIC-Butyl	Protein-Pak Hi Res HIC	Proteomix HIC-Butyl	AdvanceBio HIC
BioCore HIC-Phenyl	TSKgel Phenyl-5PW	/	/	Proteomix HIC-Phenyl	/
BioCore RP-Butyl	/	/	/	/	/
BioCore RP-1000	/	MAbPac RP	/	Proteomix RP-1000	PLRP-S 1000Å
BioCore Glycan	TSKgel Amide-80	/	XBridge Glycan BEH Amide	Accucore 150-Amide-HILIC	AdvanceBio Amide HILIC
BioCore Protein A	TSKgel Protein A-5PW	Poros A MAbPac Protein A	/	ProAqa	Bio-Monolith Protein A
DNACore NP-Q	TSKgel DNA-STAT	ProPac SAX-10	BioSuite Q	Proteomix SAX	Bio SAX
DNACore NP-T	TSKgel DNA-STAT	ProPac WAX-10	BioSuite DEAE	Proteomix WAX	Bio WAX
DNACore SEC-1000	/	/	GTxResolve Premier SEC 1000 Å	SRT SEC-1000/ SRT-C SEC-1000	Bio SEC-5, 1000Å
DNACore SEC-2000	/	/	/	SRT SEC-2000/ SRT-C SEC-2000	Bio SEC-5, 2000Å
DNACore 1000 RP	/	MAbPac RP	/	Proteomix RP-1000	PLRP-S, 1000Å
DNACore AAV-SEC	/	SurePac Bio 550 SEC	GTxResolve Premier SEC 450 Å	AAV SEC-5	AdvanceBio SEC, 500Å
DNACore AAV-Q	TSKgel Q-STAT	ProPac SAX-10	Protein-Pak HiRes Q	Proteomix POR-Q	Bio SAX

NanoChrom

NanoChrom	Recommended alternative to different brand		
	Daicel	YMC	Phenomenex
ChiralCore Amy-D	CHIRALPAK AD-H	CHIRAL ART Amylose-C	Lux Amylose-1
ChiralCore Amy-S	CHIRALPAK AS-H	/	/
ChiralCore Amy-Y	CHIRALPAK AY-H	/	Lux Amylose-2
ChiralCore Amy-Z	CHIRALPAK AZ-H	/	/
ChiralCore Cel-D	CHIRALPAK OD-H	CHIRAL ART Cellulose-C	Lux Cellulose-1
ChiralCore Cel-J	CHIRALPAK OJ-H	/	Lux Cellulose-3
ChiralCore Cel-X	CHIRALPAK OX-H	/	Lux Cellulose-4
ChiralCore Cel-Z	CHIRALPAK OZ-H	/	Lux Cellulose-2
ChiralCore Amy-iA	CHIRALPAK IA	CHIRAL ART Amylose-SA	Lux i-Amylose-1
ChiralCore Cel-iB	CHIRALPAK IB	CHIRAL ART Cellulose-SB	/
ChiralCore Cel-iC	CHIRALPAK IC	CHIRAL ART Cellulose-SC	Lux i-Cellulose-5

Selection Guide

Bio-Separation Columns

BioCore LC Columns

for antibodies & proteins

DNACore LC Columns

for oligonucleotides & AAVs

BioCore™ LC Columns

BioCore LC columns are based on advanced column technology and designed for characterization of proteins by liquid chromatography, including fast titer analysis of monoclonal antibodies (mAbs) and Fc fusion proteins, aggregate determination of mAbs, charged variant and oxidation variant analysis, antibody drug conjugate analysis, intact mAb and mAb fragment analysis, peptide mapping and glycan analysis.

Product Portfolio

	SEC	IEX	HIC
Product	BioCore SEC-120 BioCore SEC-150 BioCore SEC-300 BioCore SEC-500	BioCore WCX BioCore SCX BioCore WAX BioCore SAX	BioCore HIC
Application	aggregates in peptides, proteins/antibodies, oligos, glycans, etc.	charged variants in mAbs, BsAbs, ADCs and proteins	variants in mAbs, BsAbs and ADCs

	RPC	HILIC	Affinity
Product	BioCore RP	BioCore Glycan	BioCore Protein A
Application	intact proteins and protein fragments	N-glycans of proteins	mAbs and Fc fusion proteins

BioCore™ SEC Columns

BioCore SEC is a family of high performance, size exclusion chromatography columns, designed for separating antibodies, proteins, peptides, oligonucleotides and related substances. The column technology involves creation of an inert neutral hydrophilic layer onto high strength, high pore-volume, monodispersed porous silica particles, combined with well-established column packing processes. BioCore SEC columns have a broad application range in (bio)pharmaceutical, biotechnology and academic research.

Main Features

- Innovative particle technology: monodispersity for high efficiency, high mechanical strength for better column lifetime, and high pore volume for high resolution
- Advanced column chemistry for minimal secondary interaction
- Multiple pore size options for a broad application range
- Robust column packing for good column lifetime

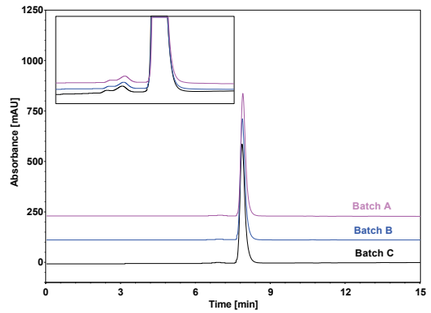
Specifications

Product Name	SEC-120	SEC-150	SEC-300	SEC-500
Functional Group	Diol			
Substrate	Monodispersed, high pore volume, porous, spherical, silica particles			
Particle Size	1.8, 3 & 5 µm			
Pore Size	120 Å	150 Å	300 Å	450 Å
Pressure Limit	6000 psi for 1.8 µm 3000 psi for 3 µm 1500 psi for 5 µm			
Temperature Limit	40 ℃			
pH Range	2-8			
Calibration Curve (PEG)	NA	500-15,000	1,000-50,000	5,000-200,000
Calibration Curve (Globular Protein)	NA	5,000-150,000	10,000-750,000	20,000-1,500,000
Application	small-molecule drugs, peptides, glycans and oligos	small-molecule drugs, peptides, glycans, oligos and small proteins	mAbs and aggregates, proteins and DNA/RNA	mAbs and high order aggregates, large proteins and DNA/RNA

Reproducibility

Column and batch reproducibility is a key consideration for SEC analysis of biotherapeutic proteins, affected by media particle size and pore structure, surface modification and column packing quality.

The utilization of three batches of 3 µm BioCore SEC-300 media to separate mAb aggregates from the monomer is illustrated below. The RSD of mAb monomer peak elution time between 3 batches is 1.35%. The RSD of peak area percentage of aggregates and monomer in the sample between 3 batches is 3.39% and 0.04%, respectively. Such batch consistency is due to precisely controlled silica particle size and pore structure, and the well-established surface modification and column packing processes.



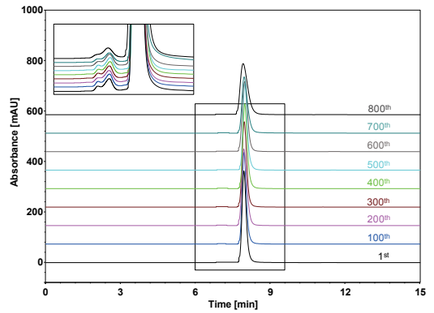
Column: **BioCore SEC-300**, 3 µm
Dimension: 7.8×150 mm
Mobile Phase: 0.2 M NaCl in 20 mM phosphate buffer, pH6.8
Flow Rate: 0.5 mL/min
Temperature: 25 ℃
Injection: 50 µL
Detection: UV 280 nm
Sample: mAb (2 mg/mL)

Batch Number	t_R (min)	HMW (%)	Monomer (%)
A	7.837	1.215	98.785
B	7.852	1.206	98.793
C	7.844	1.265	98.735
RSD (%)	1.35	3.39	0.04

Ruggedness

Column lifetime is another important factor to consider when selecting the SEC column. Column quality, chromatographic condition, sample, and the LC instrument all affect column lifetime. Compared with other types of stationary phases, SEC media is relatively fragile because of the use of large pore volume, requiring special care during use, such as avoiding sudden pressure surge and overpressure, as well as adequate sample cleanup.

The BioCore SEC columns utilize silica particles of high pore volume and high mechanical strength, as well as well-established packing processes, resulting in good column stability.



Column: **BioCore SEC-300**, 3 µm
Dimension: 7.8×150 mm
Mobile phase: 0.2 M NaCl in 20 mM phosphate buffer, pH6.8
Flow rate: 0.5 mL/min
Temperature: 25 ℃
Injection: 10 µL
Detection: UV 280 nm
Sample: Antibody (10 mg/mL)

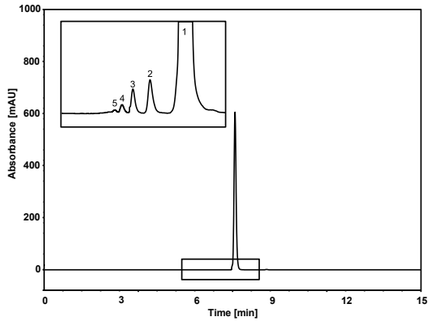
Injection	t_R (min)	HMW (%)	Monomer (%)
1st	7.936	1.152	98.848
100th	7.941	1.167	98.833
200th	7.933	1.183	98.817
300th	7.946	1.192	98.808
400th	7.968	1.207	98.793
500th	7.971	1.205	98.795
600th	7.969	1.203	98.797
700th	7.946	1.148	98.852
800th	7.906	1.125	98.875
RSD (%)	0.26	2.49	0.03

Bio-Separation Columns

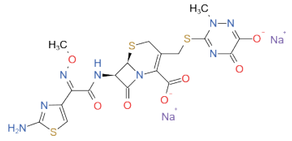
Applications

BioCore SEC-120

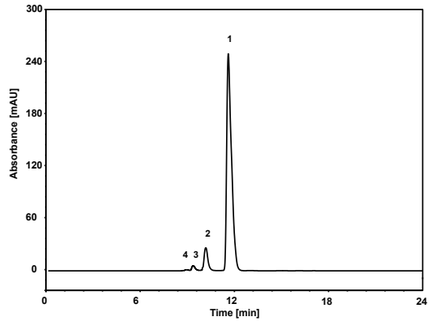
Ceftriaxone Sodium



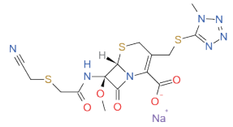
Column: **BioCore SEC-120**, 5 µm
Dimension: 7.8×300 mm
Mobile Phase: 5 mM phosphate buffer, pH7.0
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 2 µL
Detection: UV 231 nm
Peaks: 1.Ceftriaxone
2~5. Polymers of Ceftriaxone



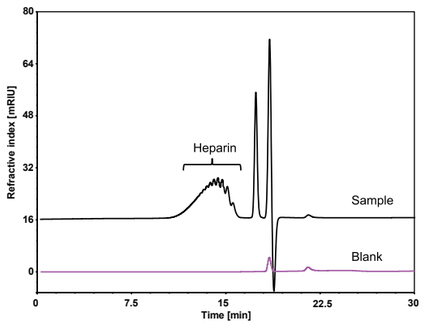
Cefmetazole Sodium



Column: **BioCore SEC-120**, 5 µm
Dimension: 7.8×300 mm
Mobile Phase : 90/10 v/v 5 mM phosphate buffer, pH7.0/MeCN
Flow Rate: 0.6 mL/min
Temperature: 25 ℃
Injection: 10 µL
Detection: UV 254 nm
Peaks: 1. Cefmetazole
2~4. Impurities

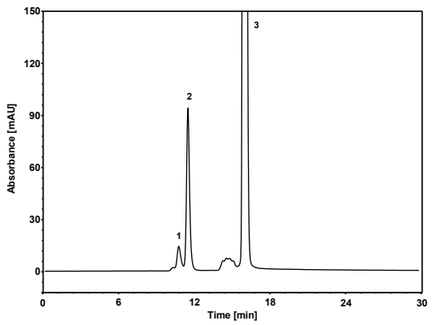


Low Molecular Weight Heparin



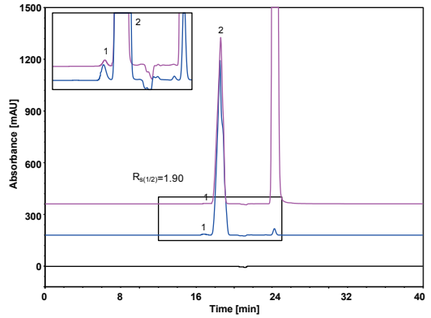
Column: **BioCore SEC-120**, 5 µm
Dimension: 7.8×300 mm
Mobile Phase : 100 mM ammonium acetate solution
Flow Rate: 0.6 mL/min
Temperature: 35 ℃
Injection: 20 µL
Detection: RID (40 ℃)
Peaks: Heparin

Peptides



Column: **BioCore SEC-120**, 5 µm
Dimension: 7.8×300 mm
Mobile Phase: 40/60 v/v MeCN/0.1% TFA in H_2O
Flow Rate: 0.7 mL/min
Temperature: 30 ℃
Injection: 20 µL
Detection: UV 276 nm
Peaks: 1. Aggregates
2. Peptide
3. M-cresol

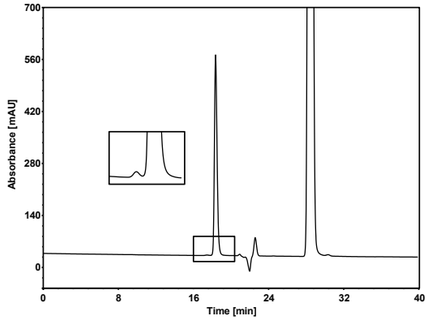
Aspartate Insulin



Column: **BioCore SEC-120**, 5 µm
Dimension: 7.8×300 mm
Mobile Phase: 15/20/65 v/v/v CH_3COOH/MeCN/0.1% arginine in H_2O
Flow Rate: 0.5 mL/min
Temperature: 40 ℃
Injection: 100 µL
Detection: UV 276 nm
Samples: Red: Insulin aspart injection
Blue: Insulin aspart (4 mg/mL)
Black: 0.01 mol/L HCl

BioCore SEC-150

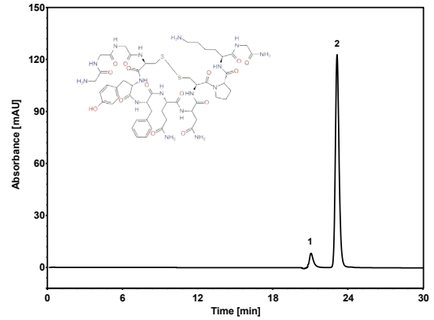
Exenatide Injection



Column: **BioCore SEC-150**, 5 µm
Dimension: 7.8×300 mm
Mobile Phase: 25/75/0.1 v/v/v MeCN/18.7 g/L Na_2SO_4 in H_2O/TFA
Flow Rate: 0.5 mL/min
Temperature: 30 ℃
Injection: 20 µL
Detection: UV 214 nm
Sample: Exenatide Injection

t_R (min)	T_f (USP)	R_s (USP)
18.413	1.25	1.65

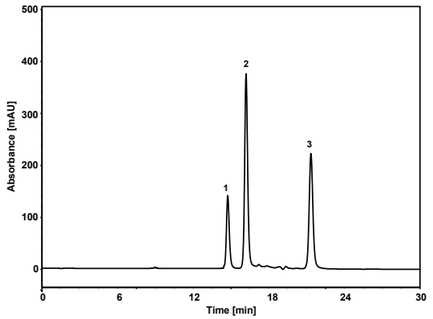
Terlipressin



Column: **BioCore SEC-150**, 5 µm
Dimension: 7.8×300 mm
Mobile Phase: 100 mM Na_2SO_4 in 100 mM phosphate buffer
Flow Rate: 0.5 mL/min
Temperature: 30 ℃
Injection: 10 µL
Detection: UV 274 nm
Peaks: 1. Impurity
2. Terlipressin

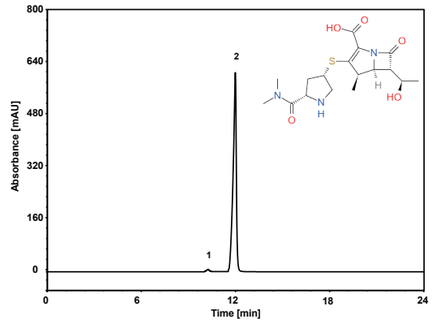
t_R (min)	T_f (USP)	R_s (USP)
23.080	1.19	3.63

Peptides



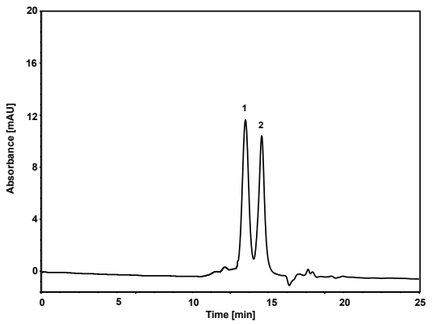
Column: **BioCore SEC-150**, 5 μm
Dimension: 7.8×300 mm
Mobile Phase: 90/10 v/v 300 mM NaCl in 50 mM phosphate buffer/MeCN
Flow Rate: 0.6 mL/min
Temperature: 25 ℃
Injection: 10 μL
Detection: UV 215 nm
Peaks : 1. P-3000
2. P-2000
3. P-1000

Meropenem



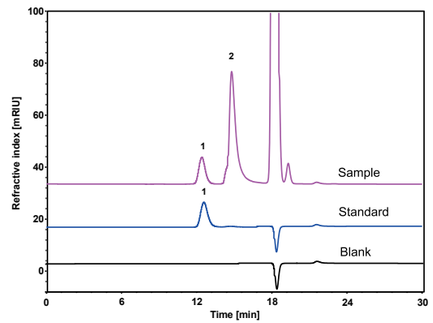
Column: **BioCore SEC-150**, 5 μm
Dimension: 7.8×300 mm
Mobile Phase : 95/5 v/v 5 mM phosphate buffer, pH7.0/MeCN
Flow Rate: 0.6 mL/min
Temperature: 25 ℃
Injection: 20 μL
Detection: UV 254 nm
Peaks: 1. Polymer of Meropenem
2. Meropenem

ScFv Monomer and Dimer



Column: **BioCore SEC-150**, 5 μm
Dimension: 7.8×300 mm
Mobile Phase: 90/10 v/v 300 mM NaCl in 50 mM phosphate buffer/ MeCN
Flow Rate: 0.6 mL/min
Temperature: 30 ℃
Injection: 20 μL
Detection: UV 280 nm
Peaks: 1. ScFv Dimer
2. ScFv Monomer

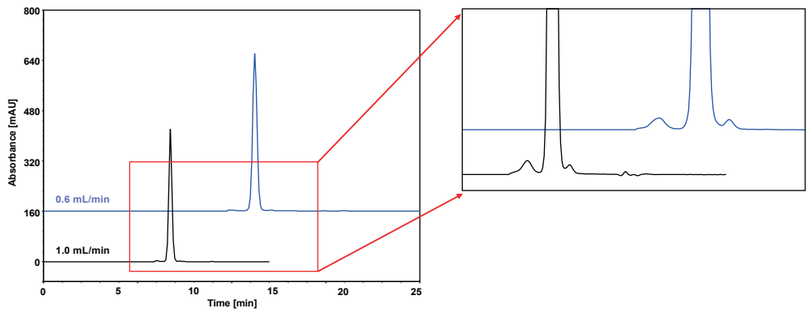
Poloxamer 188 (P188) in Protein Solution



Column: **BioCore SEC-150**, 5 μm
Dimension: 7.8×300 mm
Mobile Phase: 10 mM ammonium acetate solution, pH5.2
Flow Rate: 0.6 mL/min
Temperature: 25 ℃
Injection: 20 μL
Detection: RID (40 ℃)
Peaks: 1. Poloxamer 188 (P188)
2. Protein

BioCore SEC-300

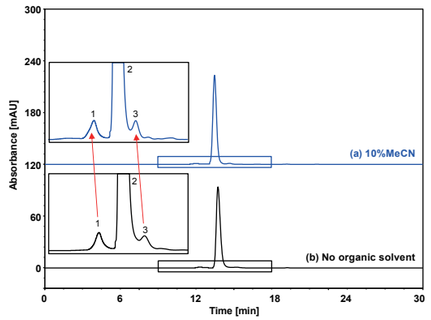
Effect of Flow Rate



Column: **BioCore SEC-300**, 5 μm
Dimension: 7.8×300 mm
Mobile Phase: 10/90 v/v MeCN/300 mM NaCl in 50 mM phosphate buffer, pH6.8
Flow Rate: 0.6 and 1.0 mL/min
Temperature: 30 ℃
Injection: 10 μL
Detection: UV 214 nm
Sample: mAb (1 mg/mL)

Flow Rate (mL/min)	t_M (min)	$Width_M$ (50%)	S_A (%)	S_M (%)	S_F (%)	Fragment (p/v)
0.6	14.027	0.32	1.08	98.38	0.54	2.40
1.0	8.408	0.23	1.51	97.84	0.65	1.66

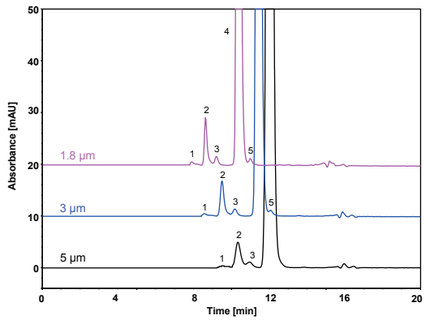
Effect of Organic Solvent



Column: **BioCore SEC-300**, 5 μm
Dimension: 7.8×300 mm
Mobile Phase: 10/90 v/v MeCN/200 mM Na_2SO_4 in 50 mM phosphate buffer, pH7.0 (a)
200 mM Na_2SO_4 in 50 mM phosphate buffer, pH7.0 (b)
Flow Rate: 0.6 mL/min
Temperature: 30 ℃
Injection: 5 μL
Detection: UV 280 nm
Sample: ADC (15 mg/mL)
Peaks: 1. Aggregates
2. Monomer
3. Fragment

Mobile Phase	t_M (min)	Width (50%)	S_A (%)	S_M (%)	S_F (%)	P/V (1/2)	P/V (2/3)
10%MeCN	13.46	0.32	1.99	96.62	1.38	38.04	2.16
No organic solvent	13.73	0.35	1.84	96.76	1.40	17.48	1.50

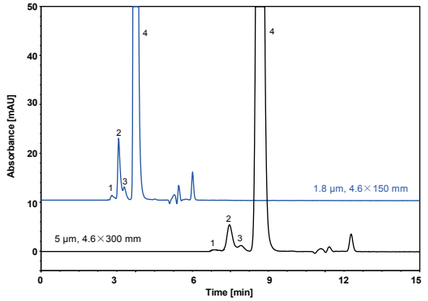
mAb, Aggregates and Fragments (from HPLC to UHPLC)



Columns: **BioCore SEC-300**, 5 μm
BioCore SEC-300, 3 μm
BioCore SEC-300, 1.8 μm
Dimension: 4.6×300 mm
Mobile Phase: 90/10 v/v 50 mM phosphate buffer, pH6.8/MeCN
Flow Rate: 0.25 mL/min
Temperature: 30 ℃
Injection: 5 μL
Detection: UV 280 nm
Sample: Trastuzumab biosimilar (5 mg/mL)
Peaks: 1-3. Aggregates
4. mAb
5. Fragment

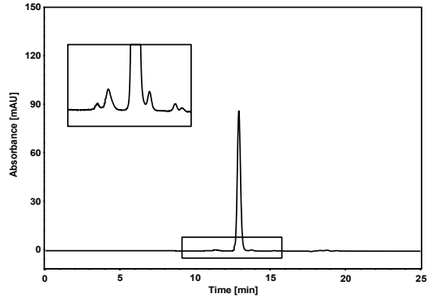
Particle Size	$N_{(4)}$ (plates)	$R_{s(1-2)}$ (USP)	$R_{s(2-3)}$ (USP)	$R_{s(3/4)}$ (USP)	$R_{s(4/5)}$ (USP)
1.8 μm	22668	2.21	1.95	3.83	2.33
3 μm	17006	2.84	1.88	3.58	1.06
5 μm	9616	2.29	0.94	1.68	/

mAb and Aggregates (Fast Analysis)



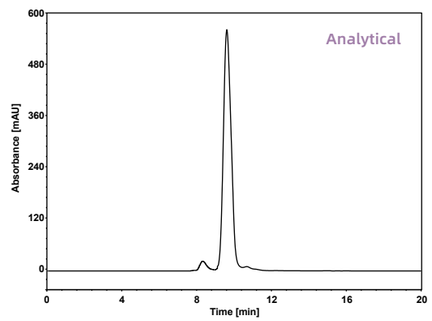
Columns: **BioCore SEC-300**, 5 μm, 4.6×300 mm
BioCore SEC-300, 1.8 μm, 4.6×150 mm
Mobile Phase: 300 mM NaCl in 50 mM phosphate buffer, pH6.8
Flow Rate: 0.35 mL/min
Temperature: 30 ℃
Injection: 5 μL
Detection: UV 280 nm
Sample: Trastuzumab Biosimilar (5 mg/mL)
Peaks: 1-3. Aggregates
4. mAb

NIST RM8671

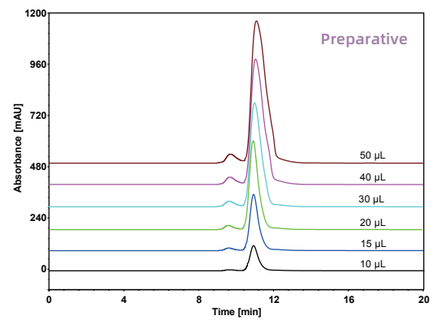


Column: **BioCore SEC-300**, 3 μm
Dimension: 4.6×300 mm
Mobile Phase: 90/10 v/v 300 mM NaCl in 50 mM phosphate buffer, pH6.8/MeCN
Flow Rate: 0.21 mL/min
Temperature: 30 ℃
Injection: 5 μL
Detection: UV 280 nm
Sample: NIST mAb (1.0 mg/mL)

From Analytical Scale to Preparative Scale (Fusion Protein)

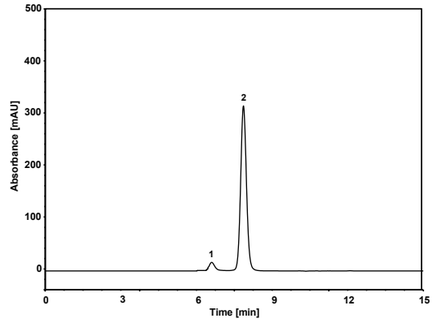


Column: **BioCore SEC-300**, 5 μm
Dimension: 7.8×300 mm
Mobile Phase: 100 mM Na_2SO_4 in 100 mM phosphate buffer, pH6.8
Flow Rate: 0.7 mL/min
Temperature: 30 ℃
Injection: 10 μL
Detection: UV 280 nm
Sample: Fusion Protein (M.W.=78 kDa, 80 mg/mL)



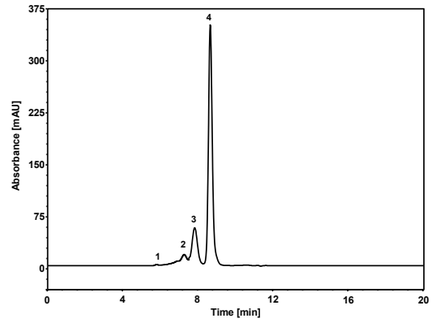
Column: **BioCore SEC-300**, 5 μm
Dimension: 20×300 mm
Mobile Phase: 100 mM Na_2SO_4 in 100 mM phosphate buffer, pH6.8
Flow Rate: 4 mL/min
Temperature: 30 ℃
Injection: 10/15/20/30/40/50 μL
Detection: UV 280 nm
Sample: Fusion Protein (M.W.=78 kDa, 80 mg/mL)

IgG1 and Aggregates



Column: **BioCore SEC-300**, 5 μm
Dimension: 4.6×300 mm
Mobile Phase: 150 mM phosphate buffer, pH6.8
Flow Rate: 0.35 mL/min
Temperature: 30 ℃
Injection: 5 μL
Detection: UV 280 nm
Sample: IgG1 (2.6 mg/mL in H_2O)
Peaks: 1. Aggregates
2. Monomer

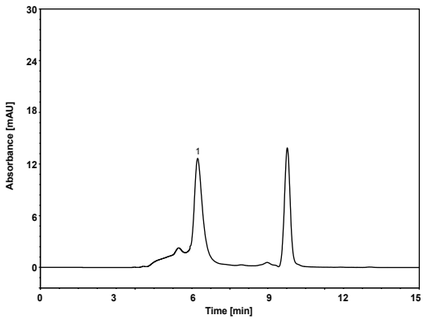
Human Serum Albumin



Column: **BioCore SEC-300**, 5 μm
Dimension: 7.8×300 mm
Mobile Phase : 100 mM phosphate buffer, pH7.0
Flow Rate: 0.7 mL/min
Temperature: 25 ℃
Injection: 10 μL
Detection: UV 280 nm
Peaks: 1-3. Aggregates
4. Human Serum Albumin

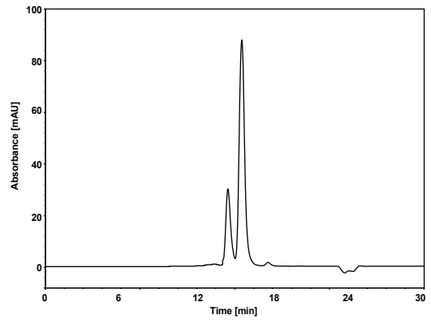
BioCore SEC-500

IgM



Column: **BioCore SEC-500**, 3 µm
Dimension: 4.6×150 mm
Mobile Phase: 10/90 v/v MeCN/300 mM NaCl in 50 mM phosphate buffer, pH6.8
Flow Rate: 0.21 mL/min
Temperature: 30 ℃
Injection: 1 µL
Detection: UV 280 nm
Sample: IgM in Human Serum
Peak: 1. IgM

PEGylated Protein



Column: **BioCore SEC-500**, 3 µm
Dimension: 4.6×300 mm
Mobile Phase: 4/96 v/v MeCN/500 mM arginine in 10 mM phosphate buffer, pH6.8
Flow Rate: 0.17 mL/min
Temperature: 30 ℃
Injection: 2 µL
Detection: UV 280 nm
Sample: PEGylated Protein

Ordering Information

Particle Size (µm)	Column Dimension L×I.D.(mm)	Part Number			
		BioCore SEC-120	BioCore SEC-150	BioCore SEC-300	BioCore SEC-500
5	300x4.6	B213-050012-04630S	B213-050015-04630S	B213-050030-04630S	B213-050050-04630S-V
	150x4.6	B213-050012-04615S	B213-050015-04615S	B213-050030-04615S	B213-050050-04615S-V
	50x4.6	B213-050012-04605S	B213-050015-04605S	B213-050030-04605S	B213-050050-04605S-V
	300x7.8	B213-050012-07830S	B213-050015-07830S	B213-050030-07830S	B213-050050-07830S-V
	150x7.8	B213-050012-07815S	B213-050015-07815S	B213-050030-07815S	B213-050050-07815S-V
3	300x4.6	B213-030012-04630S	B213-030015-04630S	B213-030030-04630S	B213-030050-04630S
	150x4.6	B213-030012-04615S	B213-030015-04615S	B213-030030-04615S	B213-030050-04615S
	50x4.6	B213-030012-04605S	B213-030015-04605S	B213-030030-04605S	B213-030050-04605S
	300x7.8	B213-030012-07830S	B213-030015-07830S	B213-030030-07830S	B213-030050-07830S
	150x7.8	B213-030012-07815S	B213-030015-07815S	B213-030030-07815S	B213-030050-07815S
1.8	300x4.6	B213-018012-04630S	B213-018015-04630S	B213-018030-04630S	B213-018050-04630S
	150x4.6	B213-018012-04615S	B213-018015-04615S	B213-018030-04615S	B213-018050-04615S
	50x4.6	B213-018012-04605S	B213-018015-04605S	B213-018030-04605S	B213-018050-04605S

BioCore™ Ion-Exchange Columns

BioCore ion-exchange columns, including BioCore WCX, BioCore SCX, BioCore WAX and BioCore SAX, are designed for separating charged variants in antibodies, proteins, and related substances, and provide a broad application range in the areas including biotechnology, biopharmaceutical and scientific research.

Main Features

- Optimal selectivity for separating charged variants in antibodies/proteins
- Good peak shape and low carryover
- High column efficiency for better resolution
- Excellent chemical and mechanical stability
- Good column-to-column consistency

Specifications

Product Name	BioCore WCX	BioCore SCX	BioCore WAX	BioCore SAX
Functional Group	Carboxylic acid	Sulfonic acid	Tertiary amine	Quaternary ammonium
Substrate	Monodispersed, spherical, nonporous PS/DVB particles			
Particle Size	5 & 10 µm			
Pore Size	Nonporous			
Pressure Limit	4000 psi for 10 µm 5000 psi for 5 µm			
Temperature Limit	60 ℃			
pH Range	2-12			
Application	Charged variants in antibodies and proteins			

BioCore IEX

Bio-Separation Columns

BioCore™ WCX Columns

BioCore WCX is a family of high-performance, weak cation-exchange columns designed for separating charged variants in proteins, including monoclonal antibodies (mAbs) and related substances. Its column technology involves the creation of a hydrophilic carboxylic functional layer on the surface of monodispersed, nonporous, spherical PS/DVB particles, in combination with well-established column packing processes.

Main Features

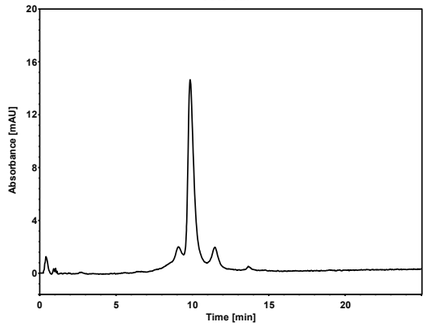
- Optimal selectivity for separating charged variants in proteins/antibodies
- Good peak shape and low carryover
- High column efficiency and mechanical strength
- Excellent tolerance to acids, bases and organic solvents
- Good column-to-column consistency

Specifications

Product Name	BioCore WCX
Functional Group	Carboxylic acid
Substrate	Monodispersed, spherical, nonporous PS/DVB particles
Particle Size	5 & 10 µm
Pore Size	Nonporous
Pressure Limit	4000 psi for 10 µm 5000 psi for 5 µm
Temperature Limit	60 ℃
pH Range	2-12
Application	Charged variants in antibodies and proteins

Applications

mAb

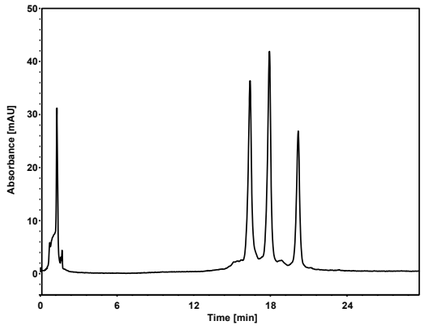


Column: **BioCore WCX**, 10 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM ACES, pH7.0
B) 300 mM NaCl in 20 mM ACES, pH7.0

Gradient:	t (min)	%A	%B
	-20	80	20
	0	80	20
	5	80	20
	25	60	40
	25.1	0	100
	30	0	100

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 2 µL
Detection: UV 280 nm
Sample: mAb (5.0 mg/mL in mobile phase A)

IgG1

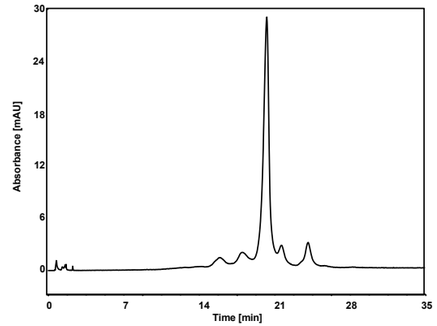


Column: **BioCore WCX**, 10 µm
Dimension: 4.6×250 mm
Mobile Phase: A) 20 mM MES, pH6.1
B) 200 mM NaCl in 20 mM MES, pH6.1

Gradient:	t (min)	%A	%B
	-15	83	17
	0	83	17
	5	83	17
	30	50	50
	30.1	0	100
	35	0	100

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 20 µL
Detection: UV 280 nm
Sample: IgG1 (~2 mg/mL in H_2O)

IgG1

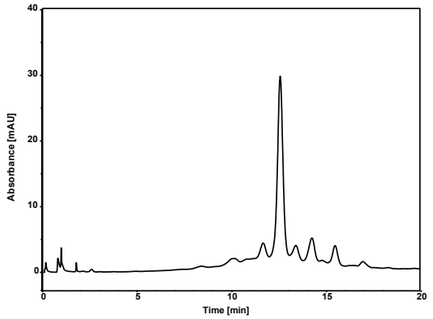


Column: **BioCore WCX**, 10 µm
Dimension: 4.6×250 mm
Mobile Phase: A) 20 mM MES, pH6.5
B) 150 mM NaCl in 20 mM MES， pH6.5

Gradient:	t (min)	%A	%B
	-15	95	5
	0	95	5
	0.1	95	5
	40	80	20
	40.1	0	100
	43	0	100

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 10 µL
Detection: UV 280 nm
Sample: IgG1 (~2.5 mg/mL in mobile phase A)

IgG2

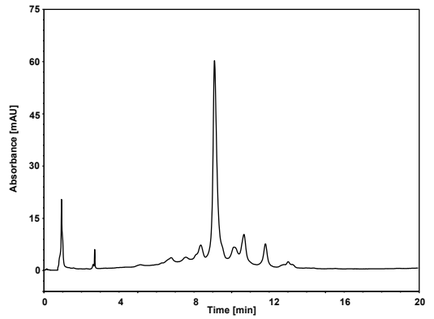


Column: **BioCore WCX**, 10 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM phosphate buffer, pH7.0
B) 300 mM NaCl in 20 mM phosphate buffer, pH7.0

Gradient:	t (min)	%A	%B
	-15	95	5
	0	95	5
	0.1	95	5
	20	80	20
	20.1	0	100
	23	0	100

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 25 µL
Detection: UV 280 nm
Sample: IgG2 (1 mg/mL in H_2O)

IgG2



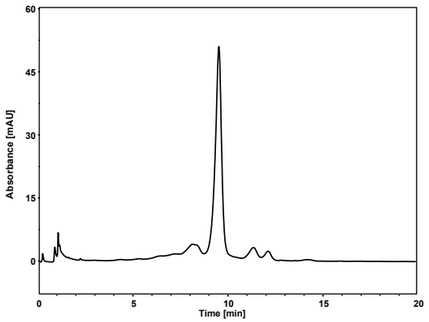
Column: **BioCore WCX**, 5 µm
Dimension: 4.6×150 mm
Mobile phase: A) 20 mM phosphate buffer, pH6.5
B) 300 mM NaCl in 20 mM phosphate buffer, pH6.5

Gradient:	t (min)	%A	%B
	-15	85	15
	0	85	15
	0.1	85	15
	20	70	30
	20.1	0	100
	23	0	100

Flow rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 25 µL
Detection: UV 280 nm
Sample: IgG2 (~1 mg/mL in mobile phase A)

Bio-Separation Columns

IgG4

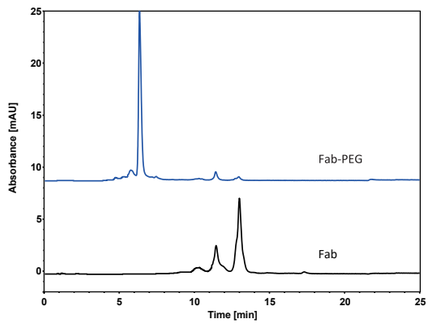


Column: **BioCore WCX**, 10 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM phosphate buffer, pH6.5
B) 300 mM NaCl in 20 mM phosphate buffer, pH6.5
Gradient:

t (min)	%A	%B
-15	95	5
0	95	5
0.1	95	5
20	80	20
20.1	0	100
23	0	100

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 25 µL
Detection: UV 280 nm
Sample: IgG4 (1 mg/mL in H_2O)

Fab and Fab-PEG

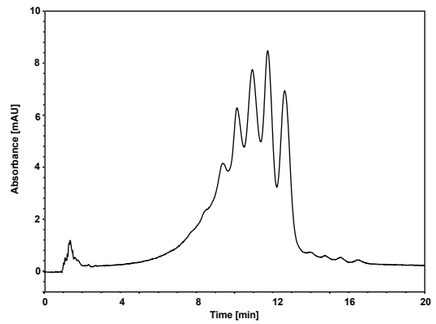


Column: **BioCore WCX**, 10 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM MES, pH5.5
B) 300 mM NaCl in 20 mM MES, pH5.5
Gradient:

t (min)	%A	%B
-10	100	0
0	100	0
20	60	40
20.1	0	100
25	0	100

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 2 µL
Detection: UV 280 nm
Sample: Fab-PEG (3 mg/mL in 50 mM sodium acetate solution)
Fab (5 mg/mL in 50 mM phosphate buffer)

Bispecific Antibody

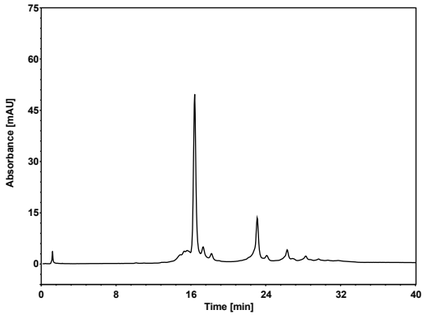


Column: **BioCore WCX**, 10 µm
Dimension: 4.6×150 mm
Mobile Phase : A) 20 mM phosphate buffer, pH6.5
B) 300 mM NaCl in 20 mM phosphate buffer, pH6.5
Gradient:

t (min)	%A	%B
-15	90	10
0	90	10
0.1	90	10
20	75	25
20.1	0	100
23	0	100

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 5 µL
Detection: UV 280 nm
Sample: Bispecific Antibody (~5 mg/mL in mobile phase A)

Bispecific Antibody

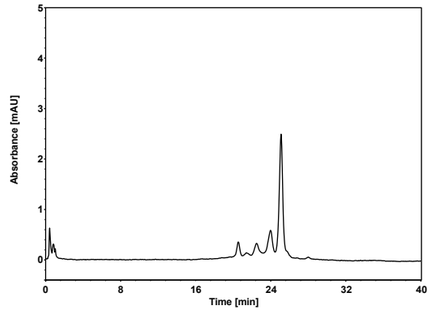


Column: **BioCore WCX**, 10 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM phosphate buffer, pH6.5
B) 300 mM NaCl in 20 mM phosphate buffer, pH6.5
Gradient:

t (min)	%A	%B
0	100	0
40	65	35
40.1	0	100
45	0	100
45.1	100	0
60	100	0

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 20 µL
Detection: UV 280 nm
Sample: Bispecific Antibody (~5.0 mg/mL, pI 8.5)

Bispecific Antibody



Columns: **BioCore WCX**, 10 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM phosphate buffer, pH6.5
B) 300 mM NaCl in 20 mM phosphate buffer, pH6.5
Gradient:

t (min)	%A	%B
0	100	0
0.1	100	0
40	70	30
40.1	0	100
43	0	100

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 3 µL
Detection: UV 280 nm
Sample: Bispecific Antibody (1.72 mg/mL, pI 8.15)

Ordering Information

Product Name	Particle Size (µm)	Column Dimension L x I.D.(mm)	Part Number
BioCore WCX	10	250x4.6	B311-100000-04625P
		150x4.6	B311-100000-04615P
		100x4.6	B311-100000-04610P
		50x4.6	B311-100000-04605P
	5	250x4.6	B311-050000-04625P
		150x4.6	B311-050000-04615P
		100x4.6	B311-050000-04610P
		50x4.6	B311-050000-04605P

Bio-Separation Columns

BioCore™ SCX Columns

BioCore SCX is a family of high-performance, strong cation-exchange columns designed for separating charged variants in proteins, including monoclonal antibodies (mAbs) and related substances. Its column technology involves the creation of a hydrophilic sulfonic functional layer on the surface of monodispersed, nonporous, spherical PS/DVB particles, in combination with well-established column packing processes.

Main Features

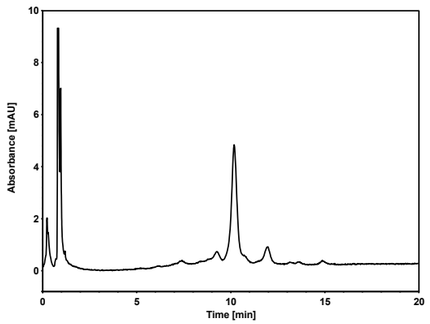
- Optimal selectivity for separating charged variants in proteins/antibodies
- Good peak shape and low carryover
- High column efficiency and mechanical strength
- Excellent tolerance to acids, bases and organic solvents
- Good column-to-column consistency

Specifications

Product Name	BioCore SCX
Functional Group	Sulfonic acid
Substrate	Monodispersed, spherical, nonporous PS/DVB particles
Particle Size	5 & 10 µm
Pore Size	Nonporous
Pressure Limit	4000 psi for 10 µm 5000 psi for 5 µm
Temperature Limit	60 ℃
pH Range	2-12
Application	Charged variants in antibodies and proteins

Applications

IgG2

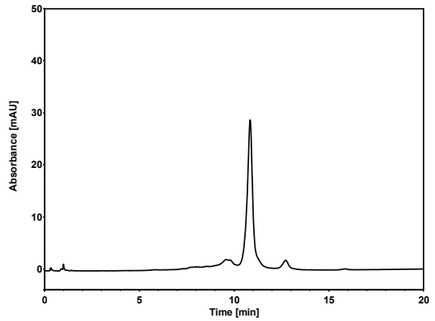


Column: **BioCore SCX**, 10 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM MES, pH6.5
B) 300 mM NaCl in 20 mM MES, pH6.5

Gradient:	t (min)	%A	%B
	-15	82	18
	0	82	18
	20	70	30
	20.1	0	100
	23	0	100

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 10 µL
Detection: UV 280 nm
Sample: IgG2 (1 mg/mL in H_2O)

IgG4

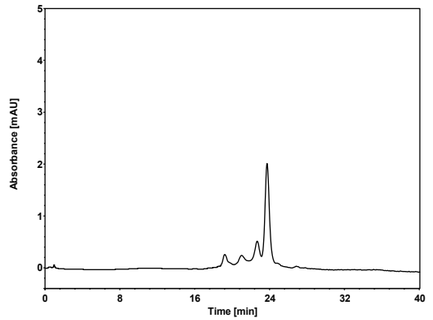


Column: **BioCore SCX**, 10 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM MES, pH6.5
B) 300 mM NaCl in 20 mM MES, pH6.5

Gradient:	t (min)	%A	%B
	-15	93	7
	0	93	7
	20	79	21
	20.1	0	100
	23	0	100

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 10 µL
Detection: UV 280 nm
Sample: IgG4 (1 mg/mL in H_2O)

Bispecific Antibody

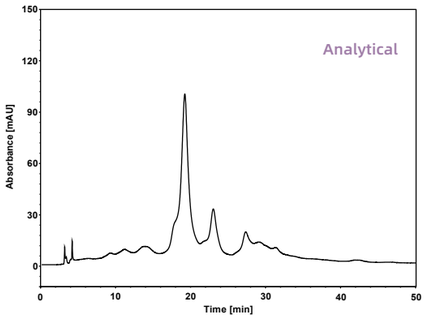


Column: **BioCore SCX**, 10 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM phosphate buffer, pH6.5
B) 300 mM NaCl in 20 mM phosphate buffer, pH6.5

Gradient:	t (min)	%A	%B
	0	100	0
	0.1	100	0
	40	70	30
	40.1	0	100
	43	0	100

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 3 µL
Detection: UV 280 nm
Sample: Bispecific Antibody (1.72 mg/mL, pI 8.15)

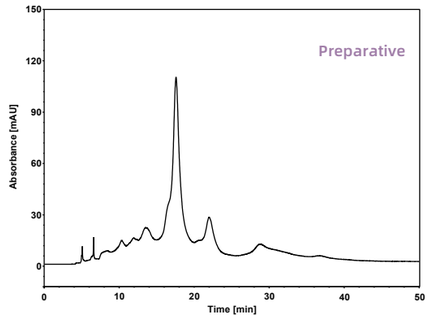
From Analytical Scale to Preparative Scale (ADC)



Column: **BioCore SCX**, 10 µm
Dimension: 4.6×250 mm
Mobile Phase: A) 20 mM phosphate buffer, pH6.5
B) 300 mM NaCl in 20 mM phosphate buffer, pH6.5

Gradient:	t (min)	%A	%B
	0	100	0
	2	100	0
	52	94.2	5.8
	52.1	0	100
	57	0	100
	57.1	100	0
	77	100	0

Flow Rate: 0.5 mL/min
Temperature: 25 ℃
Injection: 10 µL
Detection: UV 280 nm
Sample: ADC (30 mg/mL, pI 7.4)



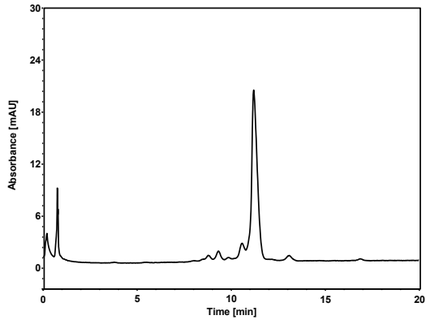
Column: **BioCore SCX**, 10 µm
Dimension: 21.2×250 mm
Mobile Phase: A) 20 mM phosphate buffer, pH6.5
B) 300 mM NaCl in 20 mM phosphate buffer, pH6.5

Gradient:	t (min)	%A	%B
	0	100	0
	2	100	0
	52	92.7	7.3
	52.1	0	100
	57	0	100
	57.1	100	0
	77	100	0

Flow Rate: 6 mL/min
Temperature: 25 ℃
Injection: 50 µL
Detection: UV 280 nm
Sample: ADC (30 mg/mL, pI 7.4)

Bio-Separation Columns

Fusion Protein

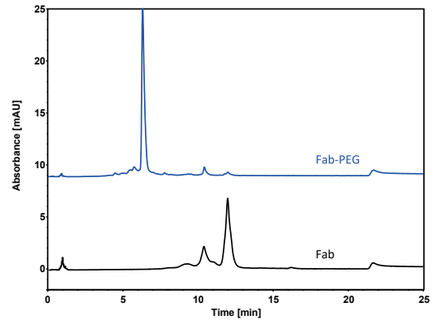


Column: **BioCore SCX**, 10 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM MES, pH6.0
B) 300 mM NaCl in 20 mM MES, pH6.0

Gradient:	t (min)	%A	%B
	-15	72	28
	0	72	28
	25	45	55
	25.1	0	100
	28	0	100

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 10 µL
Detection: UV 280 nm
Sample: Fusion Protein (2.5 mg/mL in mobile phase A)

Fab and Fab-PEG



Column: **BioCore SCX**, 10 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM MES, pH5.5
B) 300 mM NaCl in 20 mM MES, pH5.5

Gradient:	t (min)	%A	%B
	-10	100	0
	0	100	0
	20	60	40
	20.1	0	100
	25	0	100

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 2 µL
Detection: UV 280 nm
Sample: Fab-PEG (3 mg/mL in 50 mM sodium acetate solution)
Fab (5 mg/mL in 50 mM phosphate buffer)

Ordering Information

Product Name	Particle Size (µm)	Column Dimension L x I.D.(mm)	Part Number
BioCore SCX	10	250x4.6	B411-100000-04625P
		150x4.6	B411-100000-04615P
		100x4.6	B411-100000-04610P
		50x4.6	B411-100000-04605P
	5	250x4.6	B411-050000-04625P
		150x4.6	B411-050000-04615P
		100x4.6	B411-050000-04610P
		50x4.6	B411-050000-04605P

BioCore™ WAX Columns

BioCore WAX is a family of high-performance, weak anion-exchange columns designed for separating charged variants in proteins with low pI. Its column technology involves the creation of a hydrophilic tertiary amino functional layer on the surface of monodispersed, nonporous, spherical PS/DVB particles, in combination with well-established column packing processes.

Main Features

- Optimal selectivity for separating charged variants in antibodies/proteins
- Good peak shape and low carryover
- High column efficiency for better resolution power
- Excellent chemical and mechanical stability
- Good column-to-column consistency

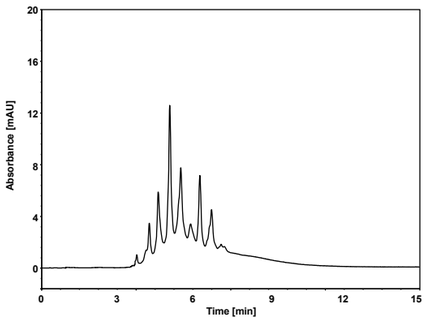
Specifications

Product Name	BioCore WAX
Functional Group	Tertiary amine
Substrate	Monodispersed, spherical, nonporous PS/DVB particles
Particle Size	5 & 10 µm
Pore Size	Nonporous
Pressure Limit	4000 psi for 10 µm 5000 psi for 5 µm
Temperature Limit	60 ℃
pH Range	2-12
Application	Charged variants in antibodies and proteins

Bio-Separation Columns

Applications

Ovalbumin

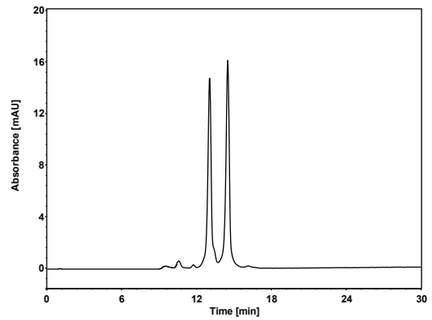


Column: **BioCore WAX**, 5 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM Tris, pH8.0
B) 500 mM NaCl in 20 mM Tris, pH8.0

Gradient:	t (min)	%A	%B
	0	100	0
	0.1	100	0
	15	50	50
	15.1	0	100
	20	0	100
	20.1	100	0
	30	100	0

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 10 µL
Detection: UV 280 nm
Sample: Ovalbumin (5 mg/mL)

Recombinant Protein



Column: **BioCore WAX**, 10 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM Tris, pH7.0
B) 250 mM NaCl in 20 mM Tris, pH7.0

Gradient:	t (min)	%A	%B
	0	100	0
	0.5	100	0
	30	60	40
	30.1	100	0
	40	100	0

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 5 µL
Detection: UV 280 nm
Sample: Recombinant Protein (2 mg/mL, pI 4~5)

Ordering Information

Product Name	Particle Size (µm)	Column Dimension L x I.D.(mm)	Part Number
BioCore WAX	10	250x4.6	B511-100000-04625P
		150x4.6	B511-100000-04615P
		100x4.6	B511-100000-04610P
		50x4.6	B511-100000-04605P
	5	250x4.6	B511-050000-04625P
		150x4.6	B511-050000-04615P
		100x4.6	B511-050000-04610P
		50x4.6	B511-050000-04605P

BioCore™ SAX Columns

BioCore SAX is a family of high-performance, strong anion-exchange columns designed for separating charged variants in proteins with low pI. Its column technology involves the creation of a hydrophilic quaternary amino functional layer on the surface of monodispersed, nonporous, spherical PS/DVB particles, in combination with well-established column packing processes.

Main Features

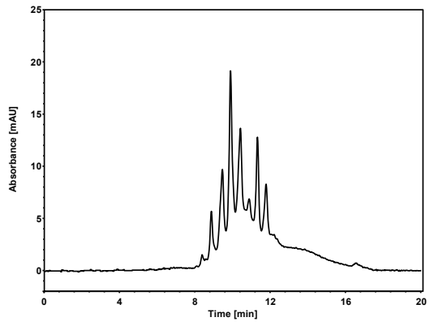
- Optimal selectivity for separating negatively charged variants in proteins
- Good peak shape and low carryover
- High column efficiency and mechanical strength
- Excellent tolerance to acids, bases and organic solvents
- Good column-to-column consistency

Specifications

Product Name	BioCore SAX
Functional Group	Quaternary ammonium
Substrate	Monodispersed, spherical, nonporous PS/DVB particles
Particle Size	5 & 10 µm
Pore Size	Nonporous
Pressure Limit	4000 psi for 10 µm 5000 psi for 5 µm
Temperature Limit	60 ℃
pH Range	2-12
Application	Charged variants in antibodies and proteins

Applications

Ovalbumin



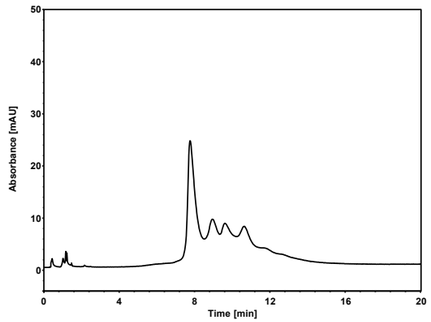
Column: **BioCore SAX**, 10 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM Tris, pH8.5
B) 500 mM NaCl in 20 mM Tris, pH8.5

Gradient:	t (min)	%A	%B
	-15	100	0
	0	100	0
	15	50	50
	15.1	0	100
	20	0	100

Flow Rate: 1.0 mL/min
Injection: 10 µL
Temperature: 30 ℃
Detection: UV 280 nm
Sample: Ovalbumin (5 mg/ mL in H_2O)

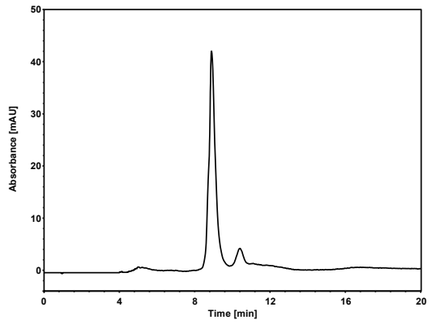
Bio-Separation Columns

Recombinant Fusion Protein



Column:	**BioCore SAX**, 10 µm		
Dimension:	4.6×150 mm		
Mobile Phase:	A) 20 mM MES, pH6.5		
	B) 300 mM NaCl in 20 mM MES, pH6.5		
Gradient:	t (min)	%A	%B
	-15	70	30
	0	70	30
	20	40	60
	20.1	0	100
	23	0	100
Flow Rate:	0.8 mL/min		
Injection:	10 µL		
Temperature:	20 ℃		
Detection:	UV 280 nm		
Sample:	Recombinant Fusion Protein (1 mg/mL in H_2O)		

BSA



Column:	**BioCore SAX**, 10 µm		
Dimension:	4.6×150 mm		
Mobile Phase:	A) 20 mM Tris, pH8.5		
	B) 500 mM NaCl in 20 mM Tris, pH8.5		
Gradient:	t (min)	%A	%B
	-15	100	0
	0	100	0
	15	0	100
	20	0	100
	20.1	100	0
Flow Rate:	1.0 mL/min		
Injection:	10 µL		
Temperature:	30 ℃		
Detection:	UV 280 nm		
Sample:	BSA (5 mg/mL in H_2O)		

Ordering Information

Product Name	Particle Size (µm)	Column Dimension L x I.D.(mm)	Part Number
BioCore SAX	10	250x4.6	B611-100000-04625P
		150x4.6	B611-100000-04615P
		100x4.6	B611-100000-04610P
		50x4.6	B611-100000-04605P
	5	250x4.6	B611-050000-04625P
		150x4.6	B611-050000-04615P
		100x4.6	B611-050000-04610P
		50x4.6	B611-050000-04605P

BioCore™ HIC Columns

BioCore HIC is a family of high-performance, hydrophobic interaction chromatography columns that separate monoclonal antibodies (mAbs), bispecific antibodies (BsAbs) and antibody-drug conjugates (ADCs) based on their difference in surface hydrophobicity.

Main Features

- Optimal selectivity for the DAR analysis in ADCs
- Minimal undesired interactions for low carryover
- Excellent mechanical strength for column robustness
- Good column-to-column consistency

Specifications

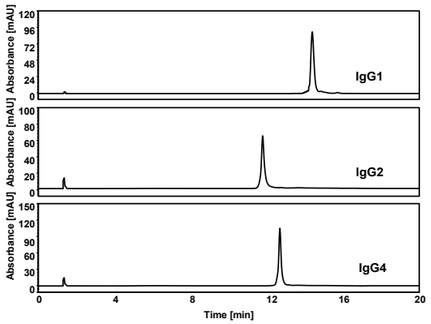
Product Name	BioCore HIC-Butyl	BioCore HIC-Phenyl
Functional Group	Butyl	Phenyl
Substrate	Monodispersed, wide-pore silica particles	
Particle Size	5 µm	
Pore Size	1000 Å	
Pressure Limit	6000 psi	
Temperature Limit	60 ℃	
pH Range	2-8	
Application	DAR analysis in ADCs, variants in proteins/antibodies	

Bio-Separation Columns

Applications

BioCore HIC-Butyl

mAbs

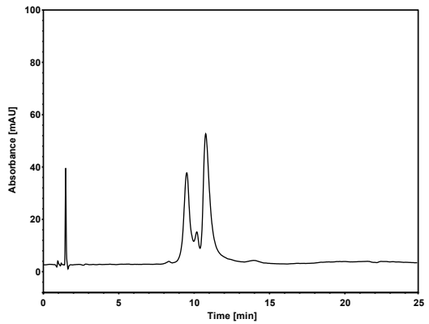


Column: **BioCore HIC-Butyl**, 5 µm
Dimension: 4.6×100 mm
Mobile Phase: A) 2.0 M $(NH_4)_2SO_4$ in100 mM phosphate buffer, pH7.0
B) 100 mM phosphate buffer, pH7.0
Gradient:

t (min)	%A	%B
-10	100	0
0	100	0
1	100	0
15	0	100
20	0	100

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 10 µL
Detection: UV 280 nm
Sample: IgG1, IgG2 and IgG4 (~1 mg/mL each in mobile phase A)

Bispecific Antibody

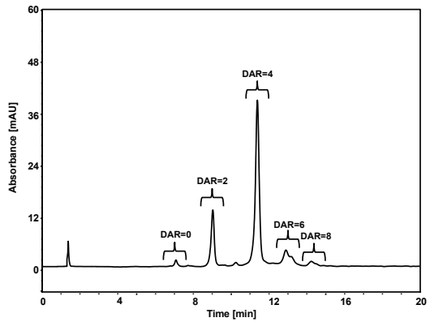


Column: **BioCore HIC-Butyl**, 5 µm
Dimension: 4.6×100 mm
Mobile Phase: A) 2.0 M $(NH_4)_2SO_4$ in100 mM phosphate buffer, pH7.0
B) 100 mM phosphate buffer, pH7.0
C) Isopropanol
Gradient:

t (min)	%A	%B	%C
0	60	40	0
20	0	80	20
25	0	80	20

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 10 µL
Detection: UV 214 nm
Sample: Bispecific Antibody

Cysteine Conjugated ADC

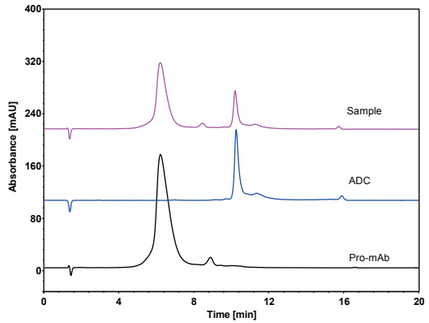


Column: **BioCore HIC-Butyl**, 5 µm
Dimension: 4.6×100 mm
Mobile Phase : A) 2.0 M $(NH_4)_2SO_4$ in 100 mM phosphate buffer, pH7.0
B) 100 mM phosphate buffer, pH7.0
C) Isopropanol
Gradient:

t (min)	%A	%B	%C
-10	75	25	0
0	75	25	0
1	75	25	0
15	0	75	25
20	0	75	25

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 10 µL
Detection: UV 280 nm
Sample: Cysteine conjugated ADC (~1 mg/mL in mobile phase A)

ADC and Pro-mAb



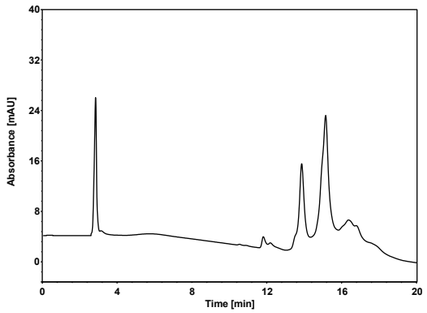
Column: **BioCore HIC-Butyl**, 5 µm
Dimension: 4.6×100 mm
Mobile Phase: A) 2.0 M $(NH_4)_2SO_4$ in 100 mM phosphate buffer, pH7.0
B) 100 mM phosphate buffer, pH7.0
C) Isopropanol
Gradient:

t (min)	%A	%B	%C
0	50	50	0
1	50	50	0
15	0	75	25
20	0	75	25
20.1	50	50	0
35	50	50	0

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 20 µL
Detection: UV 220 nm
Samples: ADC (0.46 mg/mL)
Pro-mAb (1.8 mg/mL)

BioCore HIC-Phenyl

Antibody-Drug Conjugate

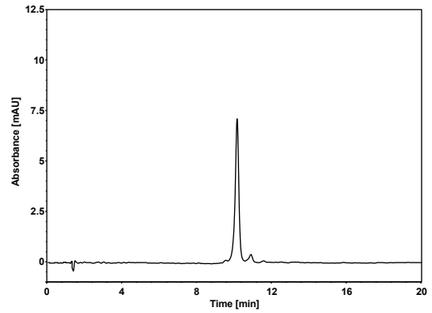


Column: **BioCore HIC-Phenyl**, 5 µm
Dimension: 4.6×100 mm
Mobile Phase: A) 1.5 M $(NH_4)_2SO_4$ in 20 mM phosphate buffer, pH7.0
B) 25/75 v/v IPA/20 mM phosphate buffer, pH7.0
Gradient:

t (min)	%A	%B
0	100	0
20	0	100
21	100	0
30	100	0

Flow Rate: 0.5 mL/min
Temperature: 30 ℃
Injection: 20 µL
Detection: UV 280 nm
Sample: ADC-DAR4 (0.5 mg/mL)

Bispecific Antibody



Columns: **BioCore HIC-Phenyl**, 5 µm
Dimension: 4.6×100 mm
Mobile Phase: A) 7.5/92.5 v/v IPA/2.0 M $(NH_4)_2SO_4$ in 100 mM phosphate buffer, pH7.0
B) 7.5/92.5 v/v IPA/100 mM phosphate buffer, pH7.0
Gradient:

t (min)	%A	%B
0	100	0
1	100	0
20	0	100
20.1	100	0
26	100	0

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 2 µL
Detection: UV 280 nm
Sample: Bispecific Antibody (1.72 mg/mL)

Ordering Information

Product Name	Particle Size (µm)	Column Dimension L×I.D. (mm)	Part Number
BioCore HIC-Butyl	5	250x4.6	B713-050100-04625S
		100x4.6	B713-050100-04610S
		50x4.6	B713-050100-04605S
BioCore HIC-Phenyl	5	250x4.6	B723-050100-04625S
		100x4.6	B723-050100-04610S
		50x4.6	B723-050100-04605S

BioCore™ RP Columns

BioCore RP is a family of high-performance, reversed-phase columns, designed for the separation and the determination of exact mass of variants in proteins and their fragments, such as mAbs and related substances.

Main Features

- High column efficiency and low carryover
- Excellent mechanical strength
- Good MS compatibility
- Good column-to-column consistency

Specifications

Product Name	BioCore RP-Butyl	BioCore RP-1000
Functional Group	Butyl	Phenyl
Substrate	Monodispersed, spherical PS/DVB particles	
Particle Size	5 µm	
Pore Size	Nonporous	1000 Å
Pressure Limit	4500 psi	
Temperature Limit	100 ℃	
pH Range	2-12	
Application	Intact protein and protein fragment analysis	

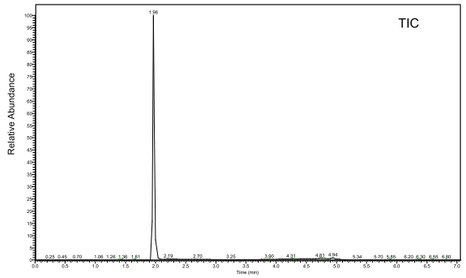
Ordering Information

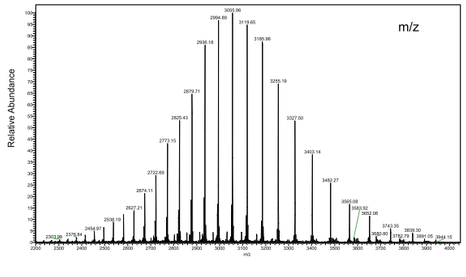
Product Name	Particle Size (µm)	Column Dimension L x I.D. (mm)	Part Number
BioCore RP-Butyl	5	100x2.1	B821-050000-02110S
		50x2.1	B821-050000-02105S
		100x3.0	B821-050000-03010S
		50x3.0	B821-050000-03005S
BioCore RP-1000	5	100x2.1	B811-050100-02110S
		50x2.1	B811-050100-02105S
		100x3.0	B811-050100-03010S
		50x3.0	B811-050100-03005S

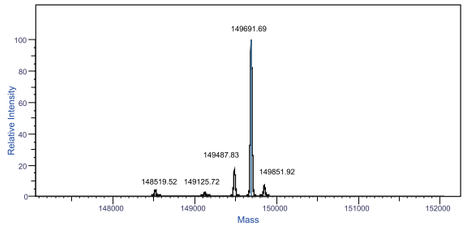
Applications

BioCore RP-Butyl

Monoclonal Antibody





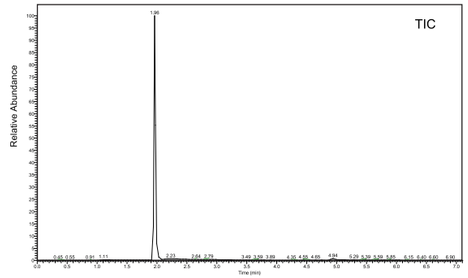


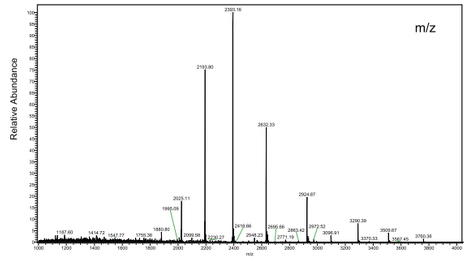
Column: **BioCore RP-Butyl**, 5 µm
Dimension: 3.0×50 mm
Mobile Phase: A) 0.1% formic acid in H_2O
B) 0.1% formic acid in MeCN

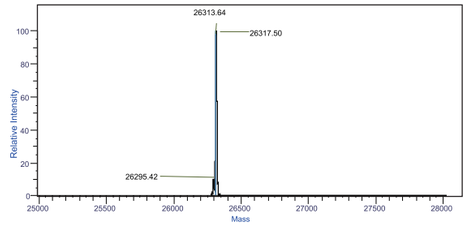
Gradient:	t (min)	%A	%B
	0	95	5
	1.1	95	5
	1.2	5	95
	4	5	95
	4.1	95	5
	7	95	5

Flow Rate: 0.6 mL/min
Temperature: 60 ℃
Injection: ~1 µg
Detection: MS (Q Exactive)
Sample: Monoclonal Antibody

Recombinant Protein







Column: **BioCore RP-Butyl**, 5 µm
Dimension: 3.0×50 mm
Mobile Phase: A) 0.1% formic acid in H_2O
B) 0.1% formic acid in MeCN

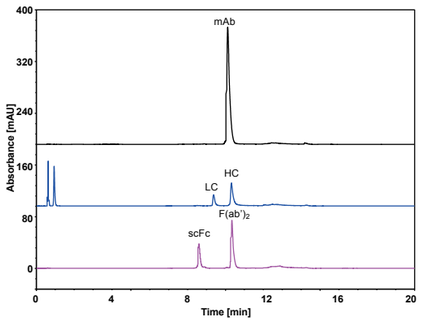
Gradient:	t (min)	%A	%B
	0	95	5
	1.1	95	5
	1.2	5	95
	4	5	95
	4.1	95	5
	7	95	5

Flow Rate: 0.6 mL/min
Temperature: 60 ℃
Injection: ~1 µg
Detection: MS (Q Exactive)
Sample: Recombinant Protein

Bio-Separation Columns

BioCore RP-1000

IgG1 and Fragments

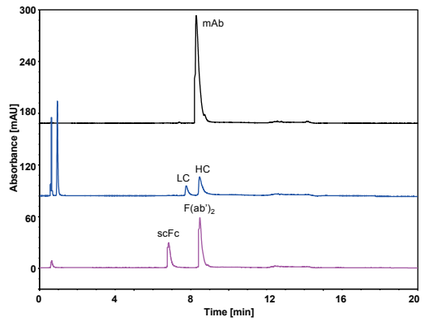


Column: **BioCore RP-1000**, 5 µm
Dimension: 3.0×50 mm
Mobile Phase: A) 0.1%TFA in H_2O
B) 0.1/9.9/90 v/v/v TFA/H_2O/MeCN
Gradient:

t (min)	%A	%B
0	80	20
1	80	20
11	55	45
11.1	0	100
13	0	100
13.1	80	20
25	80	20

Flow Rate: 0.5 mL/min
Temperature: 80 ℃
Injection: 5 µL
Detection: UV 280 nm
Samples: Black: IgG1 (5 mg/mL)
Blue: IgG1+DTT (2 mg/mL)
Red: IgG1+IdeS (1 mg/mL)

IgG1 and Fragments

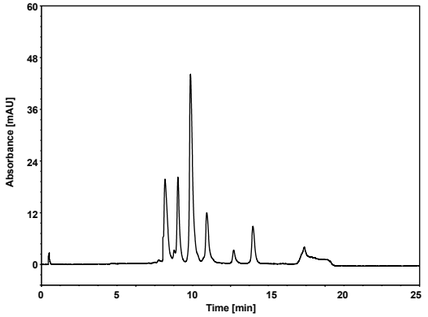


Column: **BioCore RP-1000**, 5 µm
Dimension: 3.0×50 mm
Mobile Phase: A) 0.02/0.1/99.88 v/v/v TFA/FA/H_2O
B) 0.02/0.1/9.88/90 v/v/v/v TFA/FA/H_2O/MeCN
Gradient:

t (min)	%A	%B
0	80	20
1	80	20
11	55	45
11.1	0	100
13	0	100
13.1	80	20
25	80	20

Flow Rate: 0.5 mL/min
Temperature: 80 ℃
Injection: 5 µL
Detection: UV 280 nm
Samples: Black: IgG1 (5 mg/mL)
Blue: IgG1+DTT (2 mg/mL)
Red: IgG1+IdeS (1 mg/mL)

Antibody-Drug Conjugate



Column: **BioCore RP-1000**, 5 µm
Dimension: 3.0×50 mm
Mobile Phase: A) 0.1%TFA in H_2O
B) 0.1/9.9/90 v/v/v TFA/H_2O/MeCN
Gradient:

t (min)	%A	%B
0	65	35
1	65	35
16	50	50
16.1	0	100
18	0	100
18.1	65	35
25	65	35

Flow Rate: 0.6 mL/min
Temperature: 70 ℃
Injection: 5 µL
Detection: UV 280 nm
Sample: ADC (1 mg/mL, cysteine-conjugated)

BioCore™ Glycan Columns

BioCore Glycan is a family of high-performance HILIC columns designed for profiling N-glycans present in proteins/antibodies and related substances.

Main Features

- Desired selectivity for separating fluorescently labeled N-glycans in proteins
- High resolution and stability
- Good MS compatibility
- Good column-to-column consistency

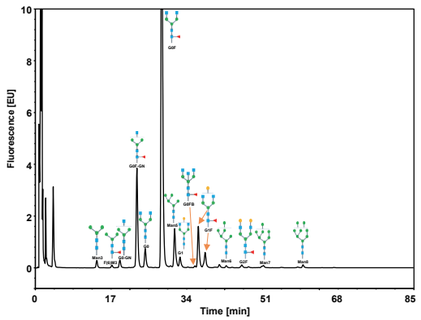
Specifications

Product Name	BioCore Glycan
Functional Group	Amide
Substrate	Monodispersed, spherical silica particles
Particle Size	1.8 & 3 µm
Pressure Limit	6000 psi for 3 µm 12000 psi for 1.8 µm
Temperature Limit	80 ℃
pH Range	2-9
Application	N-glycans analysis in antibodies and proteins

Bio-Separation Columns

Applications

N-Glycans Analysis of Trastuzumab

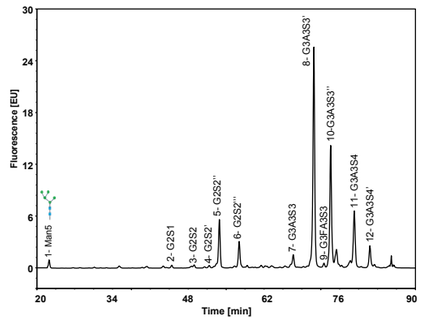


Column: **BioCore Glycan**, 1.8 µm
Dimension: 2.1×150 mm
Mobile Phase: A) 50 mM $HCOONH_4$ in H_2O, pH4.5
B) MeCN

Gradient:	t (min)	%A	%B
	0	23	77
	3	23	77
	83	35	65
	85	58	42
	88	58	42
	91	23	77
	100	23	77

Flow Rate: 0.4 mL/min
Temperature: 60 ℃
Injection: 5 µL
Detection: FLD (Ex 265 nm, Em 425 nm)
Sample: N-Glycans of Trastuzumab (derived by 2-AB)

High Sialic Acid Glycans Analysis of Bovine Fetal Globulin



Column: **BioCore Glycan**, 1.8 µm
Dimension: 2.1×150 mm
Mobile Phase: A) 50 mM $HCOONH_4$ in H_2O, pH4.5
B) MeCN

Gradient:	t (min)	%A	%B
	0	25	75
	3	25	75
	83	37	63
	85	60	40
	88	60	40
	91	25	75
	100	25	75

Flow Rate: 0.4 mL/min
Temperature: 60 ℃
Injection: 5 µL
Detection: FLD (Ex 265 nm, Em 425 nm)
Sample: High Sialic Acid Glycan of Bovine Fetal Globulin (derived by 2-AB)

Ordering Information

Product Name	Particle Size (µm)	Column Dimension L x I.D.(mm)	Part Number
BioCore Glycan	3	150x2.1	B913-030018-02115S
		100x2.1	B913-030018-02110S
		150x3.0	B913-030018-03015S
		100x3.0	B913-030018-03010S
		150x4.6	B913-030018-04615S
		100x4.6	B913-030018-04610S
	1.8	150x2.1	B913-018018-02115S
		100x2.1	B913-018018-02110S

BioCore™ Protein A Columns

BioCore Protein A is a family of high-performance affinity chromatography columns, designed for fast titer analysis of monoclonal antibodies (mAbs) and proteins containing Fc fusion fragment. BioCore Protein A is based on monodispersed, wide-pore, spherical PS/DVB particles, on which alkaline-resistant recombinant protein A ligands are bonded, in combination with well-established column packing processes.

Main Features

- High specificity for efficient capture of a broad range of antibodies and Fc fragments
- High dynamic binding capacity with a wide linear range
- High mechanical strength for faster analysis and better column lifetime
- Low ligand leakage for higher purity and better column lifetime

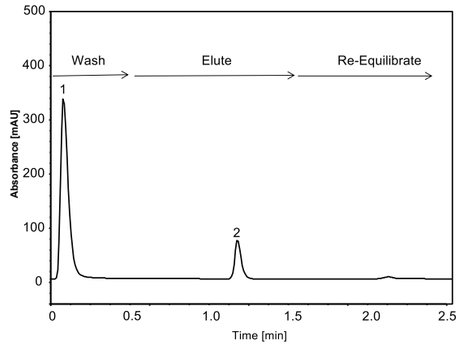
Specifications

Product Name	BioCore Protein A
Functional Group	pH stable rProtein A
Substrate	Monodispersed, porous, spherical PS/DVB particles
Particle Size	15 µm
Pore Size	1000 Å
Pressure Limit	1500 psi
Temperature Limit	2-40 ℃
pH Range	2-12
Dynamic Binding Capacity	≥17 mg/mL (IgG)
Linear Range (≥0.99)	0-200 µg (2.1x30 mm)
Storage	20% Ethanol (2-8 ℃)
Application	Fast titer analysis of mAbs and Fc fusion proteins

Ordering Information

Product Name	Particle Size (µm)	Column Dimension L x I.D.(mm)	Part Number
BioCore Protein A	15	100x2.1	B111-150100-02110S
		50x2.1	B111-150100-02105S
		30x2.1	B111-150100-02103S
		100x4.6	B111-150100-04610S
		50x4.6	B111-150100-04605S
		30x4.6	B111-150100-04603S

Titer Analysis in HCC

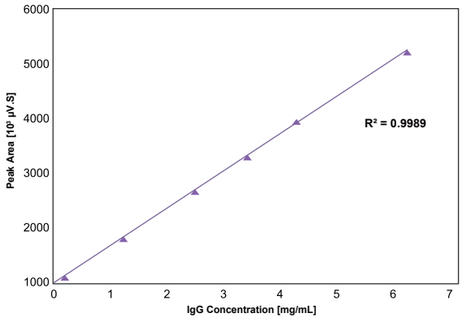


Column:	**BioCore Protein A**, 15 μm
Dimension:	2.1×30 mm
Mobile Phase:	A) 150 mM NaCl in 50 mM phosphate buffer, pH7.0
	B) 150 mM NaCl in 50 mM phosphate buffer, pH2.5

Gradient:	t (min)	%A	%B
	0	100	0
	0.5	100	0
	0.51	0	100
	1.5	0	100
	1.51	100	0
	2.5	100	0

Flow Rate:	2.0 mL/min
Temperature:	30 ℃
Injection:	20 μL
Detection:	UV 280 nm
Sample:	Cell Culture Solution (IgG ~2.4 mg/mL)

Calibration Curve

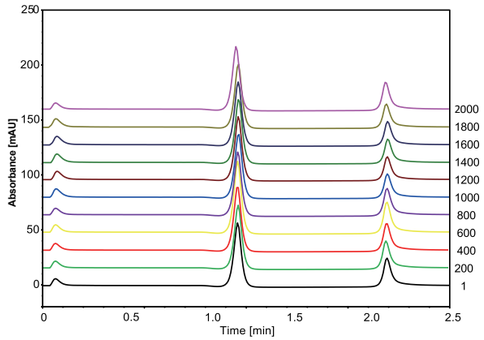


Column:	**BioCore Protein A**, 15 μm
Dimension:	2.1×30 mm
Mobile Phase:	A) 150 mM NaCl in 50 mM phosphate buffer, pH7.0
	B) 150 mM NaCl in 50 mM phosphate buffer, pH2.5

Gradient:	t (min)	%A	%B
	0	100	0
	0.5	100	0
	0.51	0	100
	1.5	0	100
	1.51	100	0
	2.5	100	0

Flow Rate:	2.0 mL/min
Temperature:	30 ℃
Injection:	20 μL
Detection:	UV 280 nm
Sample:	IgG (0-6.25 mg/mL in H_2O)

Ruggedness



Column:	**BioCore Protein A**, 15 μm
Dimension:	2.1×30 mm
Mobile Phase:	A) 150 mM NaCl in 50 mM phosphate buffer, pH 7.0
	B) 150 mM NaCl in 50 mM phosphate buffer, pH 2.5

Gradient:	t (min)	%A	%B
	0	100	0
	0.5	100	0
	0.51	0	100
	1.5	0	100
	1.51	100	0
	2.5	100	0

Flow Rate:	2.0 mL/min
Temperature:	30 ℃
Injection:	20 μL
Detection:	UV 280 nm
Sample:	IgG（1 mg/mL in H_2O）

DNACore™ HPLC Columns

DNACore is a family of columns designed for high-efficiency LC separation of oligonucleotides, DNAs, mRNAs, plasmids and AAVs. These columns are based on advanced monodispersed particle technology and carefully designed column chemistry, resulting in high resolution, ideal selectivity, good stability and decent consistency. DNACore column offering consists of three separation modes: AEX, SEC and IP-RP, providing a complete tool-set and a broad application coverage for oligonucleotide, mRNAs, plasmid and AAV separation in biopharmaceutical and scientific research.

Main Features

- Ideal separation selectivity for oligonucleotides, mRNAs, plasmid and AAVs
- High stability for long column life
- Good column-to-column consistency
- Multiple separation modes (AEX, SEC and IP-RP) for broad application coverage

Gene Therapy

Gene therapy has emerged as a powerful approach to address genetic diseases, by delivering gene therapeutics into target cells using non-viral or viral vectors to modify gene expression in various tissues.

Currently, a variety of oligonucleotides have been used as gene therapeutics, including oligonucleotides (such as ASO, siRNA, miRNA and Aptamer), mRNA, plasmid DNA (pDNA), and so on. Due to the COVID-19 pandemic, mRNA-based vaccines have attracted much attention worldwide for their effectiveness against COVID-19 and stimulated fanatical booming in developing oligonucleotides for gene therapeutics. Plasmid plays an important role in manufacturing mRNA, as well as other gene therapeutics. Plasmid has several topologies, including supercoiled, open circular, and linear forms. Among them, supercoiled plasmid has a strong impact on cell transfection efficiency and therapeutic efficacy.

Adeno-associated virus (AAV) is a widely used vector for in vivo gene therapy due to its non-pathogenicity for humans, low immunogenicity, and long-term gene expression. During AAV production, the virus titer, capsid content, and aggregation are identified as potential critical quality attributes (CQAs), affecting the purity, potency and safety of the AAV-based gene therapy products.

HPLC is undoubtedly one of the important techniques for critical quality attribute analysis of oligonucleotides, mRNAs, plasmids and AAVs with advantages in selectivity, sensitivity, throughput and reproducibility, to ensure gene therapy drug efficacy and safety. Anion-exchange chromatography is commonly used to analyze plasmid topology forms and AAV capsid content. Size exclusion chromatography is routinely used for characterizing the aggregates present in mRNA, plasmids and AAVs. Ion-pairing reversed phase chromatography is widely used for determining oligonucleotide purity.

DNACore™ IEX Columns

DNACore Ion-Exchange is a family of high-performance, anion-exchange columns designed for analysis of oligonucleotides, DNAs, mRNAs and plasmid topology. Its column technology involves the creation of a hydrophilic tertiary amine or quaternary ammonium functional layer on the surface of monodispersed, nonporous, spherical PS/DVB particles, combined with well-established column packing processes.

Main Features

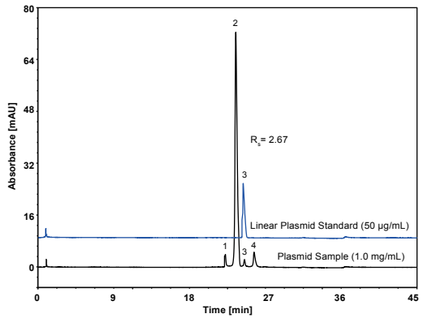
- Ideal selectivity for plasmids of different topologies.
- High column efficiency and mechanical strength
- Excellent tolerance to acids, bases and organic solvents
- Good column-to-column consistency

Specifications

Product Name	DNACore NP-Q	DNACore NP-T
Functional Group	Quaternary ammonium	Tertiary amine
Substrate	Monodispersed, spherical PS/DVB particles	
Particle Size	5 µm	
Pore Size	Nonporous	
Pressure Limit	5000 psi	
Temperature Limit	80 ℃	
pH Range	2-12	
Application	Content analysis of plasmid topology	

Applications

Plasmid

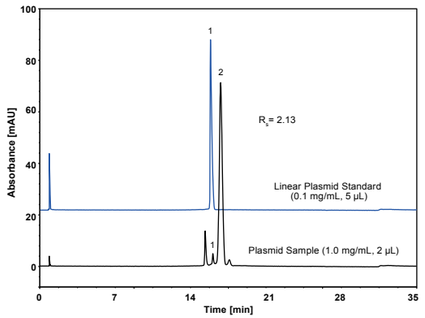


Column: **DNACore NP-Q**, 5 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM Tris, pH8.5
B) 1 M NaCl in 20 mM Tris, pH8.5

Gradient:	t (min)	%A	%B
	0	50	50
	30	15	85
	30.1	0	100
	35	0	100
	35.1	50	50
	45	50	50

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 3 µL
Detection: UV 260 nm
Peaks: 1. Open-circular Plasmid
2. Supercoiled Plasmid
3. Linear Plasmid
4. Unknown

Plasmid

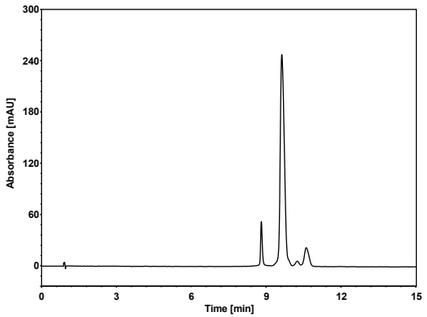


Column: **DNACore NP-Q**, 5 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM Tris, pH8.5
B) 1 M NaCl in 20 mM Tris, pH8.5

Gradient:	t (min)	%A	%B
	-12	40	60
	0	40	60
	25	15	85
	25.1	0	100
	30	0	100
	30.1	40	60
	35	40	60

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Detection: UV 260 nm
Peaks: 1. Linear Plasmid
2. Supercoiled Plasmid

Plasmid



Column: **DNACore NP-T**, 5 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 100 mM NaCl in 300 mM GuHCl and 100 mM Tris, pH8.0
B) 700 mM NaCl in 300 mM GuHCl and 100 mM Tris, pH8.0

Gradient:	t (min)	%A	%B
	0	75	25
	15	0	100
	20	0	100
	20.1	75	25
	30	75	25

Flow Rate: 1.0 mL/min
Temperature: 20 ℃
Injection: 3 µL
Detection: UV 260 nm
Sample: Plasmid (8 kbp)

Ordering Information

Product Name	Particle Size (µm)	Column Dimension L x I.D.(mm)	Part Number
DNACore NP-Q	5	250x4.6	D301-050000-04625P
		150x4.6	D301-050000-04615P
		100x4.6	D301-050000-04610P
		50x4.6	D301-050000-04605P
DNACore NP-T	5	250x4.6	D311-050000-04625P
		150x4.6	D311-050000-04615P
		100x4.6	D311-050000-04610P
		50x4.6	D311-050000-04605P

Bio-Separation Columns

DNACore™ SEC Columns

DNACore SEC is a family of high performance, size exclusion chromatography columns designed for separating plasmids, circle RNA, RV, AV, lentivirus and related aggregates and fragments. This column technology involves the creation of a neutral hydrophilic layer on the surface of specially designed, wide-pore, monodispersed silica particles, combined with well-established column packing processes.

Main Features

- Advanced column chemistry for minimal undesired interactions between the stationary phase and analytes, resulting in good peak shape and high recovery
- High column efficiency and high resolution
- High mechanical strength for long column lifetime
- Good column-to-column consistency

Specifications

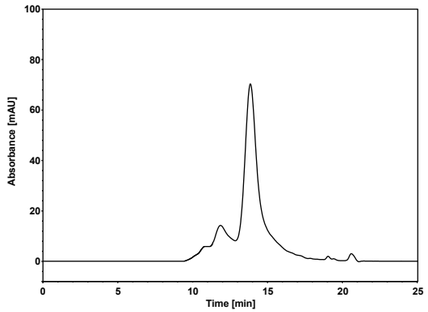
Product Name	DNACore SEC-1000	DNACore SEC-2000
Functional Group	Diol	
Substrate	Monodispersed, high pore-volume, spherical silica particles	
Particle Size	3 μm	
Pore Size	1000 Å	2000 Å
Pressure Limit	3000 psi	
Temperature Limit	40 ℃	
pH Range	2-8	
Application	Aggregate and fragment analysis in mRNAs and plasmids	

Ordering Information

Product Name	Particle Size (μm)	Column Dimension L x I.D.(mm)	Part Number
DNACore SEC-1000	3	300x4.6	D203-030100-04630S
		150x4.6	D203-030100-04615S
		50x4.6	D203-030100-04605S
DNACore SEC-2000	3	300x4.6	D203-030200-04630S
		150x4.6	D203-030200-04615S
		50x4.6	D203-030200-04605S

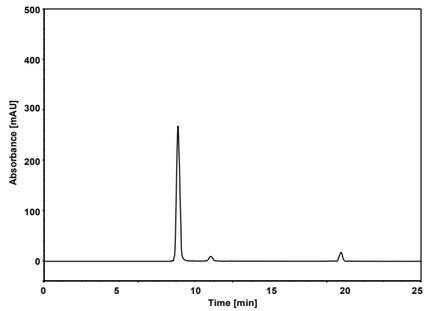
Applications

circRNA



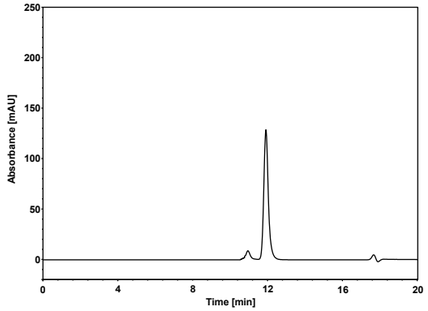
Column: **DNACore SEC-1000**, 3 μm
Dimension: 4.6×300 mm
Mobile Phase: 300 mM NaCl in 50 mM phosphate buffer, pH6.8
Flow Rate: 0.2 mL/min
Temperature: 30 ℃
Injection: 2 μL
Detection: UV 260 nm
Sample: circRNA (3.5 kbp)

Plasmid



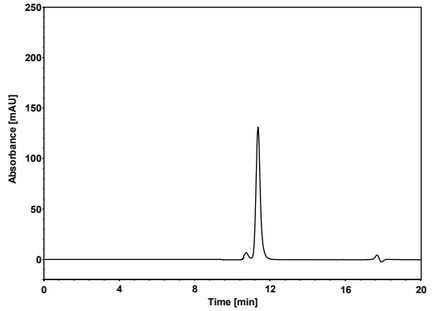
Column: **DNACore SEC-1000**, 3 μm
Dimension: 4.6×300 mm
Mobile Phase: 300 mM NaCl in 50 mM phosphate buffer, pH6.8
Flow Rate: 0.21 mL/min
Temperature: 30 ℃
Injection: 10 μL
Detection: UV 260 nm
Sample: Plasmid

Plasmid



Column: **DNACore SEC-2000**, 3 μm
Dimension: 4.6×300 mm
Mobile Phase: 300 mM NaCl in 50 mM phosphate buffer, pH6.8
Flow Rate: 0.2 mL/min
Temperature: 25 ℃
Injection: 5 μL
Detection: UV 260 nm
Sample: Plasmid (4 kbp)

Plasmid



Column: **DNACore SEC-2000**, 3 μm
Dimension: 4.6×300 mm
Mobile Phase: 300 mM NaCl in 50 mM phosphate buffer, pH6.8
Flow Rate: 0.2 mL/min
Temperature: 25 ℃
Injection: 5 μL
Detection: UV 260 nm
Sample: Plasmid (6 kbp)

Bio-Separation Columns

DNACore™ RP Columns

DNACore RP is a family of high-performance, reversed-phase columns designed for analysis of oligonucleotides, DNA, mRNA, plasmids, etc. Its column technology involves the creation of a C18 functional layer on the surface of monodispersed, wide-pore, spherical silica particles, or monodispersed PS/DVB particles with wide pore, combined with well-established column packing processes.

Main Features

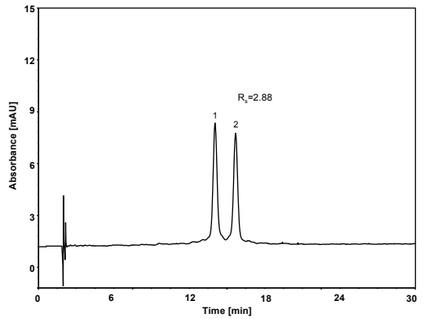
- Ideal selectivity for oligonucleotides of different sizes
- High column efficiency and mechanical strength
- Low column bleed for MS compatibility
- Good column-to-column consistency

Specifications

Product Name	DNACore 1000 C18	DNACore 1000 RP
Functional Group	Octadecyl	Phenyl
Substrate	Monodispersed, spherical silica particles	Monodispersed, spherical PS/DVB particles
Particle Size	5 μm	
Pore Size	1000 Å	
Pressure Limit	5000 psi	
Temperature Limit	60 ℃	100 ℃
pH Range	2-11	0-14
Application	Purity analysis of oligonucleotides, DNA, mRNA, plasmids, etc.	

Applications

Oligonucleotides

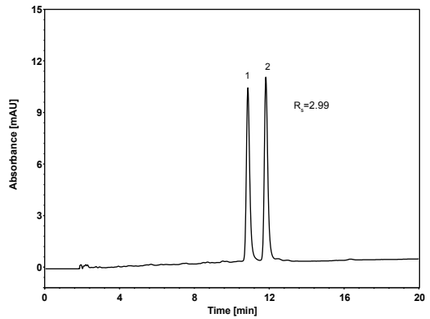


Column: **DNACore 1000 C18**, 5 μm
Dimension: 4.6×150 mm
Mobile Phase: A) 100 mM TEAA, pH7.0
B) MeCN

Gradient:	t (min)	%A	%B
	0	92	8
	30	90	10
	30.1	0	100
	32	0	100
	32.1	92	8
	45	92	8

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 5 μL
Detection: UV 260 nm
Sample: Standard Mix (0.7 ng/mL each)
Peaks: 1. 20 nt
2. 21 nt

Oligonucleotides

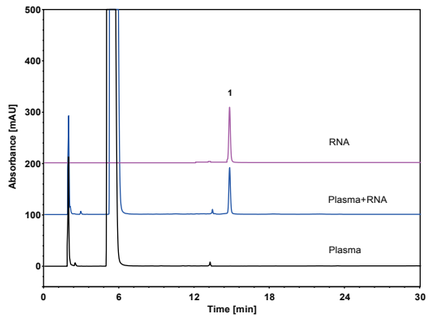


Column: **DNACore 1000 C18**, 5 μm
Dimension: 4.6×150 mm
Mobile Phase: A) 100 mM TEAA , pH7.0
B) 25/75 v/v MeCN/100 mM TEAA , pH7.0

Gradient:	t (min)	%A	%B
	0	60	40
	20	50	50
	20.1	60	40
	30	60	40

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 5 μL
Detection: UV 260 nm
Sample: Oligonucleotides
Peaks: 1. 20 nt
2. 21 nt

RNA in Plasma

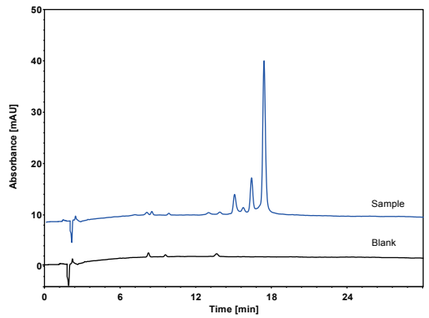


Column: **DNACore 1000 C18**, 5 μm
Dimension: 4.6×150 mm
Mobile Phase: A) 100 mM TEAA, pH7.0
B) 25/75 v/v MeCN/ 100 mM TEAA, pH7.0

Gradient:	t (min)	%A	%B
	0	75	25
	30	25	75
	31	50	50
	40	50	50

Flow Rate: 1.0 mL/min
Temperature: 50 ℃
Injection: 10 μL
Detection: UV 260 nm
Sample: RNA (180 nt, 0.1 mg/mL)

*m*RNA-based Vaccine



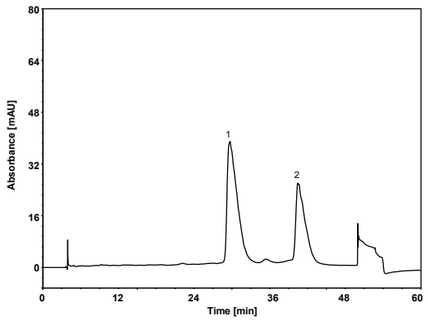
Column: **DNACore 1000 C18**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: A) 100 mM TEAA, pH7.0
B) 25/75 v/v MeCN /100 mM TEAA, pH7.0

Gradient:	t (min)	%A	%B
	0	60	40
	30	35	65
	31	60	40
	40	60	40

Flow Rate: 1.0 mL/min
Temperature: 60 ℃
Injection: 10 μL
Detection: UV 254 nm
Sample: *m*RNA-based Vaccine (1000-2000 nt, 0.2 mg/mL)

Bio-Separation Columns

*m*RNA-based Vaccine



Column:	**DNACore 1000 C18**, 5 µm		
Dimension:	4.6×150 mm		
Mobile Phase:	A) 100 mM TEAA, pH7.0		
	B) 25/75 v/v MeCN/100 mM TEAA, pH7.0		
Gradient:	t (min)	%A	%B
	0	53	47
	1	53	47
	46	50	50
	46.1	0	100
	50	0	100
	50.1	53	47
	65	53	47
Flow Rate:	0.5 mL/min		
Temperature:	60 ℃		
Injection:	10 µL		
Detection:	UV 260 nm		
Sample:	*m*RNA		
Peaks:	1. 1000 nt (0.25 mg/mL)		
	2. 1600 nt (0.5 mg/mL)		

Ordering Information

Product Name	Particle Size (µm)	Column Dimension L x I.D.(mm)	Part Number
DNACore 1000 C18	5	250x4.6	D003-050100-04625S
		150x4.6	D003-050100-04615S
		100x4.6	D003-050100-04610S
		50x4.6	D003-050100-04605S
DNACore 1000 RP	5	250x4.6	D101-050100-04625S
		150x4.6	D101-050100-04615S
		100x4.6	D101-050100-04610S
		50x4.6	D101-050100-04605S

DNACore™ AAV-SEC Columns

DNACore AAV-SEC is a family of high performance, size exclusion chromatography columns, designed for aggregate analysis of AAVs in different serotypes.

Main Features

- Innovative particle technology: monodispersity for high efficiency, high mechanical strength for long column lifetime, and large pore-volume for high resolution
- Advanced column chemistry for minimal undesired secondary interactions
- Robust column packing for good column lifetime
- Good column-to-column consistency

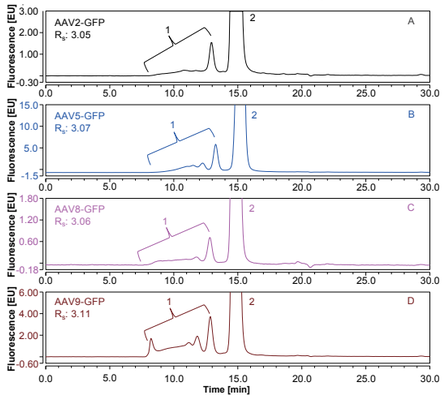
Specifications

Product Name	DNACore AAV-SEC
Functional Group	Diol
Substrate	Monodispersed, high pore volume, porous, spherical, silica particles
Particle Size	3 µm
Pore Size	Proprietary
Pressure Limit	3000 psi
Temperature Limit	40 °C
pH Range	2-8
Application	Aggregate analysis of AAVs in different serotypes

Bio-Separation Columns

Applications

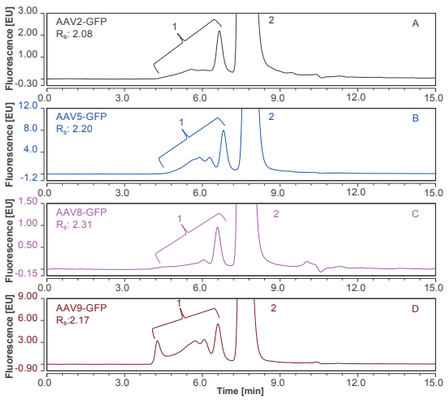
AAV Aggregates Analysis in Different Serotypes



Column: **DNACore AAV-SEC**, 3 µm
Dimension: 4.6×300 mm
Mobile Phase: 300 mM KCl in 50 mM phosphate buffer, pH6.6
Flow Rate: 0.21 mL/min
Temperature: 30 ℃
Injection: 5 µL
Detection: FLD (Ex 280 nm, Em 350 nm)
Sample: As shown in the chromatogram
Peaks: 1. Aggregates
2. Monomer

High Throughput Analysis

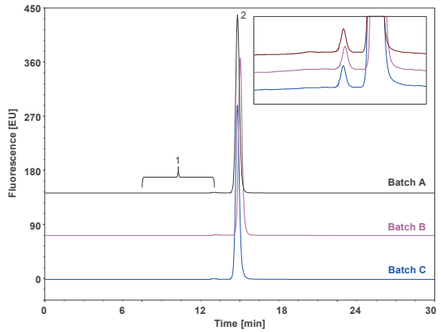
Using a 150 mm DNACore AAV-SEC column, both monomer and aggregates of four AAV serotypes were well separated (Rs > 2.0) under the same conditions. This shortened analysis time by half and doubled throughput compared to a 300 mm column.



Column: **DNACore AAV-SEC**, 3 µm
Dimension: 4.6×150 mm
Mobile Phase: 300 mM KCl in 50 mM phosphate buffer, pH6.6
Flow Rate: 0.21 mL/min
Temperature: 30 ℃
Injection: 5 µL
Detection: FLD (Ex 280 nm, Em 350 nm)
Sample: As shown in the chromatogram
Peaks: 1. Aggregates
2. Monomer

Batch-to-Batch Reproducibility

Three different batches of DNACore AAV-SEC columns were tested using AAV2. The chromatograms showed consistent monomer peak times, monomer ratios, and resolutions (RSD < 1%) among the three batches, indicating good batch-to-batch consistency of DNACore AAV-SEC columns.



Column: **DNACore AAV-SEC**, 3 µm
Dimension: 4.6×300 mm
Mobile Phase: 300 mM KCl in 50 mM phosphate buffer, pH6.6
Flow Rate: 0.21 mL/min
Temperature: 30 ℃
Injection: 5 µL
Detection: FLD (Ex 280 nm, Em 350 nm)
Sample: AAV2-GFP (1.0E+12 vg/mL)
Peaks: 1. Aggregates
2. Monomer

Batch	t_2 (min)	S_2 (%)	R_s (USP)
A	14.829	98.92	3.13
B	14.979	98.77	3.11
C	14.820	99.12	3.15
RSD (%)	0.5	0.2	0.5

Ordering Information

Product Name	Particle Size (µm)	Column Dimension L x I.D. (mm)	Part Number
DNACore AAV-SEC	3	300x4.6	D203-030AAV-04630S
		150x4.6	D203-030AAV-04615S
		50x4.6	D203-030AAV-04605S
		300x7.8	D203-030AAV-07830S
		150x7.8	D203-030AAV-07815S

Bio-Separation Columns

DNACore™ AAV-Q Columns

DNACore AAV-Q is a family of high performance, anion exchange chromatography columns, designed for empty/full ratio analysis of capsid content in different serotypes of AAV.

Main Features

- Optimal selectivity for empty/full capsid ratio analysis of AAVs in different serotypes
- Good peak shape and low carryover
- High column efficiency for enhanced resolution power
- Excellent chemical and mechanical stability
- Good column-to-column consistency

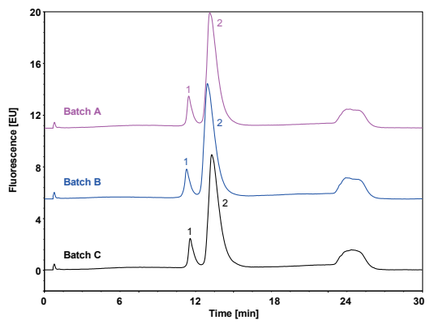
Specifications

Product Name	DNACore AAV-Q
Functional Group	Quaternary ammonium
Substrate	Monodispersed, spherical, nonporous PS/DVB particles
Particle Size	10 µm
Pore Size	Nonporous
Pressure Limit	4000 psi
Temperature Limit	60 °C
pH Range	2-12
Application	Empty/Full capsid content analysis of AAVs in different serotypes

Batch-to-Batch Reproducibility

The below chromatograms demonstrate the separation of empty and full capsids of AAV5 using three batches of **DNACore AAV-Q** media. The RSD of empty and full capsids elution time between 3 batches is 2.5% and 1.0%, respectively. The RSD of resolution is 1.0%. Such batch consistency is obtained due to the precisely controlled particle size, the well-established surface modification process, and column packing technique.

AAV5



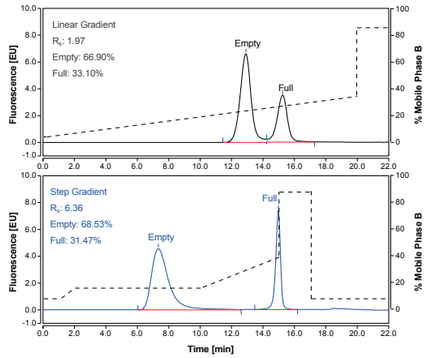
Column: **DNACore AAV-Q**, 10 µm
Dimension: 4.6×50 mm
Mobile Phase: A) H_2O B) 1 M TMAC
C) 200 mM BTP, pH8.5

Gradient:	t (min)	%A	%B	%C
	0	85	5	10
	0.5	85	5	10
	20.5	55	35	10
	20.6	0	90	10
	22.5	0	90	10
	22.6	85	5	10
	30	85	5	10

Flow Rate: 0.5 mL/min
Temperature: 30 °C
Injection: 5 µL
Detection: FLD (Ex 280 nm, Em 350 nm)
Sample: AAV5-GFP (1.0E+12 vg/mL)
Peaks: 1. Empty
2. Full

Applications

AAV2
Linear Gradient vs. Step Gradient

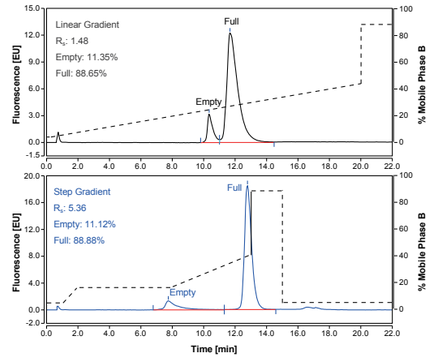


Column: **DNACore AAV-Q**, 10 µm
Dimension: 4.6×50 mm
Mobile Phase: A) H_2O B) 1 M TMAC
C) 200 mM BTP, pH8.5 D) 25 mM $MgCl_2$

Linear Gradient:	t (min)	%A	%B	%C	%D
	0	81	5	10	4
	0.1	81	5	10	4
	20	51	35	10	4
	20.1	0	86	10	4
	22	0	86	10	4
	22.1	81	5	10	4
	30	81	5	10	4
Step Gradient:	t (min)	%A	%B	%C	%D
	0	78	8	10	4
	1	78	8	10	4
	2	68	18	10	4
	10	68	18	10	4
	15	46	40	10	4
	15.1	0	86	10	4
	17	0	86	10	4
	17.1	78	8	10	4
	25	78	8	10	4

Flow Rate: 0.5 mL/min
Temperature: 30 °C
Injection: 1 µL
Detection: FLD (Ex 280 nm, Em 350 nm)
Sample: AAV2-GFP (1.0E+12 vg/mL)

AAV5
Linear Gradient vs. Step Gradient

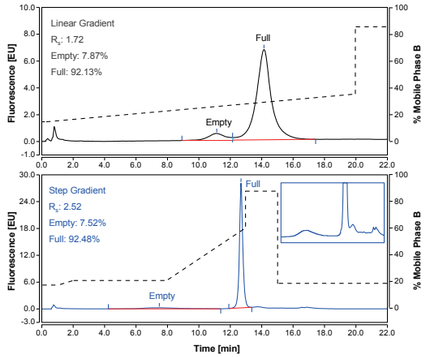


Column: **DNACore AAV-Q**, 10 µm
Dimension: 4.6×50 mm
Mobile Phase: A) H_2O B) 1 M TMAC
C) 200 mM BTP, pH8.5

Linear Gradient:	t (min)	%A	%B	%C
	0	85	5	10
	0.1	85	5	10
	20	45	45	10
	20.1	0	90	10
	22	0	90	10
	22.1	85	5	10
	30	85	5	10
Step Gradient:	t (min)	%A	%B	%C
	0	85	5	10
	1	85	5	10
	2	73	17	10
	8	73	17	10
	13	50	40	10
	13.1	0	90	10
	15	0	90	10
	15.1	85	5	10
	25	85	5	10

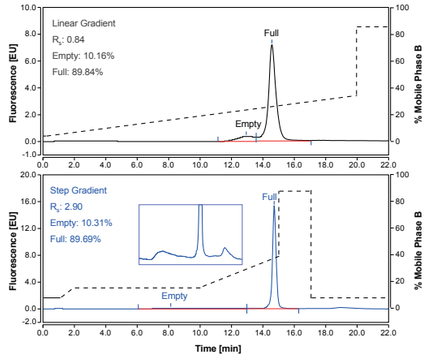
Flow Rate: 0.5 mL/min
Temperature: 30 °C
Injection: 5 µL
Detection: FLD (Ex 280 nm, Em 350 nm)
Sample: AAV5-GFP (1.0E+12 vg/mL)

AAV6
Linear Gradient vs. Step Gradient



Column:	**DNACore AAV-Q**, 10 μm				
Dimension:	4.6×50 mm				
Mobile Phase:	A) H_2O		B) 1 M TMAC		
	C) 200 mM BTP, pH9.0		D) 25 mM $MgCl_2$		
Linear Gradient:	t (min)	%A	%B	%C	%D
	0	71	15	10	4
	0.1	71	15	10	4
	20	51	35	10	4
	20.1	0	86	10	4
	22	0	86	10	4
	22.1	71	15	10	4
	30	71	15	10	4
Step Gradient:	t (min)	%A	%B	%C	%D
	0	68	18	10	4
	1	68	18	10	4
	2	65	21	10	4
	8	65	21	10	4
	13	26	60	10	4
	13.1	0	86	10	4
	15	0	86	10	4
	15.1	68	18	10	4
	25	68	18	10	4
Flow Rate:	0.5 mL/min				
Temperature:	30 ℃				
Injection:	5 μL				
Detection:	FLD (Ex 280 nm, Em 350 nm)				
Sample:	AAV6-GFP (1.0E+12 vg/mL)				

AAV8
Linear Gradient vs. Step Gradient



Column:	**DNACore AAV-Q**, 10 μm				
Dimension:	4.6×50 mm				
Mobile Phase:	A) H_2O		B) 1 M TMAC		
	C) 200 mM BTP, pH8.5		D) 25 mM $MgCl_2$		
Linear Gradient:	t (min)	%A	%B	%C	%D
	0	81	5	10	4
	0.1	81	5	10	4
	20	51	35	10	4
	20.1	0	86	10	4
	22	0	86	10	4
	22.1	81	5	10	4
	30	81	5	10	4
Step Gradient:	t (min)	%A	%B	%C	%D
	0	78	8	10	4
	1	78	8	10	4
	2	71	15	10	4
	10	71	15	10	4
	15	46	40	10	4
	15.1	0	86	10	4
	17	0	86	10	4
	17.1	78	8	10	4
	25	78	8	10	4
Flow Rate:	0.5 mL/min				
Temperature:	30 ℃				
Injection:	2 μL				
Detection:	FLD (Ex 280 nm, Em 350 nm)				
Sample:	AAV8-GFP (1.0E+12 vg/mL)				

Ordering Information

Product Name	Particle Size (μm)	Column Dimension L x I.D.(mm)	Part Number
DNACore AAV-Q	10	100x4.6	D301-100000-04610P
		50x4.6	D301-100000-04605P

NanoChrom

LC Columns

HPLC Columns

ChromCore™ LC Columns

ChromCore columns, consisting of reversed-phase (RP), normal phase (NP)/hydrophilic interaction (HILIC), ion exchange (IEX) and application-specific columns, are designed for a broad range of applications in pharmaceutical, chemical, environmental, food & beverage, scientific research, etc.

The high performance of ChromCore columns is the result of innovative particle technology, advanced column chemistry and well-developed manufacturing processes. ChromCore separation media are based on monodispersed particles with precisely controlled particle size and pore structure, as well as high mechanical strength, providing high efficiency and consistency. Advanced column chemistry results in excellent chromatography properties with desired selectivity, making ChromCore columns suited for a broad application range. ChromCore columns are produced using well-developed manufacturing processes under strict quality control, ensuring high quality and reproducibility.

ChromCore LC Column Specifications

Product Name	Particle Size (μm)	Pore Size (Å)	SSA (m^2/g)	Carbon Load (%)	pH Range	Aqueous Compatibility	USP Listing
120 C18	1.8, 3, 5	120	300	17	2-10	95%	L1
AQ C18	1.8, 3, 5	180	200	13	2-10	100%	L1
AR C18	1.8, 3, 5	120	300	12	1-8	100%	L1
BR C18	1.8, 3, 5	180	130	12	1.5-11	95%	L1
T3	5	120	300	15	2-8	100%	L1
120 C18-T	3, 5	120	300	18	1.5-10	95%	L1
Polar C18	3, 5	120	300	18	2-10	100%	L60
120 C8	1.8, 3, 5	120	300	10	2-10	95%	L7
AQ C8	1.8, 3, 5	180	200	7	2-10	100%	L7
C30	3, 5	180	200	11	2-10	100%	L62
300 C18	3, 5	300	100	9	2-10	100%	L1
300 C8	3, 5	300	100	4.5	2-10	100%	L7
300 C4-T	3, 5	300	100	3	2-9	100%	L26
Phenyl	1.8, 3, 5	120	300	12	2-8	95%	L11
PFP	1.8, 3, 5	120	300	10	2-8	95%	L43
Biphenyl	1.8, 3, 5	120	300	12	2-9	95%	L11
Phenyl-Hexyl	1.8, 3, 5	120	300	14	2-9	95%	L11
Phenyl-Ether	5	120	300	12	2-9	95%	L11
Silica	3, 5	120	300	0	3-7	100%	L3
NH_2	3, 5	120	300	4	2-8	100%	L8
CN	3, 5	120	300	6	2-8	100%	L10
HILIC-Diol	3, 5	120	300	10	2-8	100%	L20
HILIC-Amide	3, 5	120	300	7	2-8	100%	L68
HILIC-ZW	3, 5	180	200	/	2-8	100%	L114
HILIC-Imidazole	3, 5	120	300	5	2-8	100%	/
SCX	3, 5	120	300	3	2-8	100%	L9
300 SCX	3, 5	300	100	3	2-8	100%	L9
SAX	3, 5	120	300	4	2-8	100%	L14
300 SAX	3, 5	300	100	4	2-8	100%	L14

ChromCore™ Reversed-Phase LC Columns

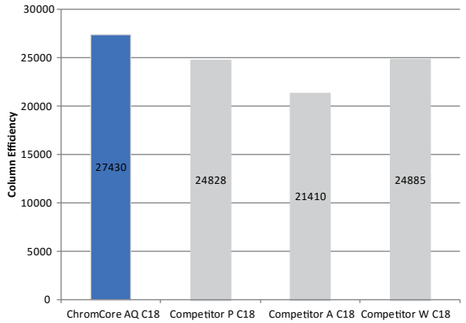
ChromCore reversed-phase LC columns are based on novel monodispersed particle technology that delivers excellent mechanical strength and high column efficiency. Combined with advanced column chemistry which results in desired selectivity, high resolution and good column-to-column consistency, ChromCore columns are suited for a broad range of applications, including pharmaceutical, food and beverage, clinical diagnostics, chemical, environmental, consumer products, and more.

Main Features

- Advanced monodispersed particle technology for high column efficiency and mechanical strength
- Versatile column chemistries for a broad range of selectivity
- Excellent chromatographic peak shape for acidic, basic and neutral analytes
- Low column bleed for MS compatibility
- Good column-to-column consistency

High Efficiency

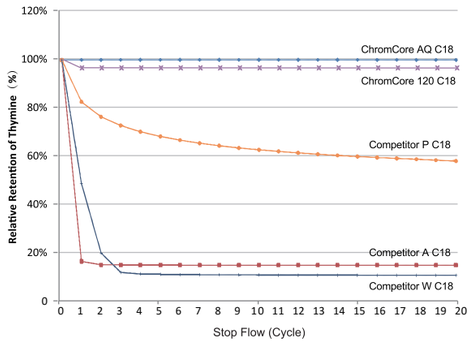
The combination of advanced monodispersed particle technology and robust column packing leads to higher column efficiency compared to competitive products.



Column: **ChromCore AQ C18**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 60/40 v/v MeCN/D.I. H_2O
Flow Rate: 1 mL/min
Temperature: 30 ℃
Injection: 5 μL
Detection: UV 254 nm
Analyte: Naphthalene

Aqueous Compatibility

The unique column chemistry ensures excellent compatibility with highly aqueous mobile phase.

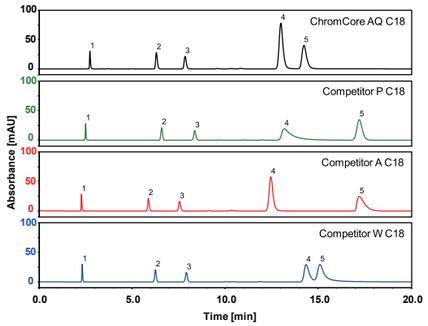


Testing Condition
Column: C18, 5 μm
Dimension: 4.6×150 mm
Mobile Phase: 10 mM ammonium acetate buffer, pH5.2
Flow Rate: 1 mL/min
Temperature: 30 ℃
Injection: 5 μL
Detection: UV 254 nm
Analyte: 1. Cytosine
2. Uracil
3. Thymine

Protocol:
Step 1. Equilibrate column with the mobile phase for 20 min
Step 2. Start running the test for 10 min
Step 3. Stop flow for 10 min
Step 4. Repeat “Step 2” and “Step 3” for additional 9 cycles

Peak Shape

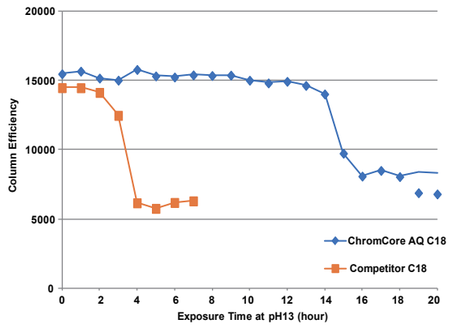
The advanced bonding technology greatly minimizes silanol activity, improving peak shape for basic compounds (e.g.,amitriptyline).



Column: **ChromCore AQ C18**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 80/20 v/v MeOH/20 mM phosphate buffer, pH7.0
Flow Rate: 1 mL/min
Temperature: 30 ℃
Injection: 5 µL
Detection: UV 254 nm
Peaks: 1. Uracil
2. Toluene
3. Ethylbenzene
4. Quinizarin
5. Amitriptyline

pH Stability

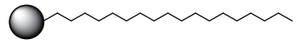
Compared with a brand name C18 column based on conventional silica particles, ChromCore AQ C18 demonstrates significantly enhanced chemical stability in alkaline conditions as the result of its high pH resistance nature of base particle and the protection of densely bonded surface.



Column: **ChromCore AQ C18**, 5 µm
Dimension: 4.6×150 mm
Mobile Phase: 10/90 v/v MeCN/10 mM ammonium acetate solution, pH5.2
Flow Rate: 1 mL/min
Temperature: 30 ℃
Injection: 5 µL
Detection: UV 225 nm
Analyte: Acetanilide (0.1 mg/mL)

Stress Condition:
Mobile Phase: 100 mM NaOH
Flow Rate: 1 mL/min
Temperature: 30 ℃

ChromCore™ 120 C18 Columns



ChromCore 120 C18 columns are based on high surface coverage C18 modified silica particles with exhaustive end-capping for minimal undesired silanol activity. They are most commonly used to separate analytes with low to high hydrophobicity.

Main Features

- Advanced monodispersed particle technology for high efficiency and mechanical strength
- Excellent peak shape for acidic, basic and neutral analytes
- Low column bleed for good MS compatibility
- Good aqueous compatibility
- Good column-to-column consistency

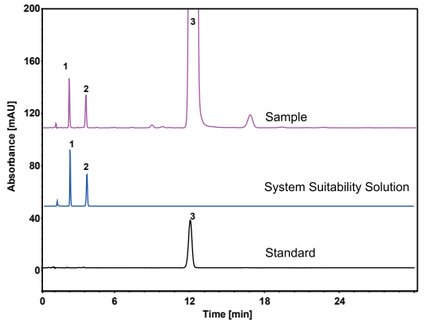
Specifications

Product Name	ChromCore 120 C18
Functional Group	Octadecyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	1.8, 3 & 5 µm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	17%
End-capped	Yes
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm 12000 psi for 1.8 µm
Temperature Limit	60 ℃
pH Range	2-10
Aqueous Compatibility	95% aqueous

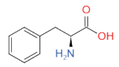
HPLC Columns

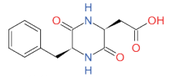
Applications

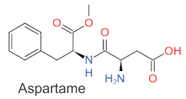
Aspartame



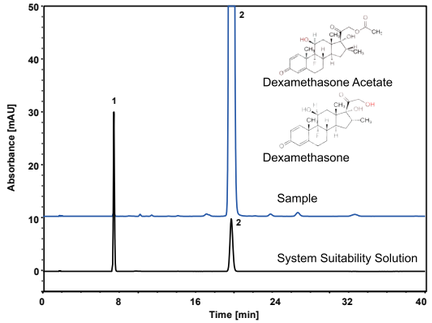
Column: **ChromCore 120 C18**, 5 μm
Dimension: 4.6×150 mm
Mobile Phase: 18/82 v/v MeOH/50 mM potassium dihydrogen phosphate buffer pH4.3 (adjusted by phosphoric acid)
Flow Rate: 2.0 mL/min
Temperature: 40 ℃
Injection: 20 μL
Detection: UV 210 nm
Sample: Aspartame
Peaks: 1. L-phenylalanine
2. 5-benzyl-3,6-dioxo-2-piperazineacetic Acid
3. Aspartame


L-phenylalanine


5-benzyl-3,6-dioxo-2-piperazineacetic Acid

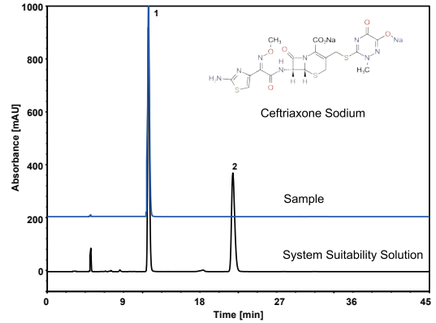

Aspartame

Dexamethasone Acetate



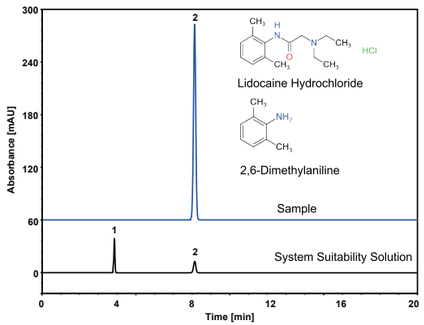
Column: **ChromCore 120 C18**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 40/60 v/v MeCN/H_2O
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 20 μL
Detection: UV 240 nm
Peaks: 1. Dexamethasone
2. Dexamethasone Acetate

Ceftriaxone Sodium



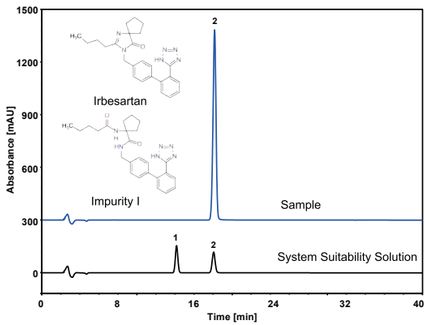
Column: **ChromCore 120 C18**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 27/73 v/v MeCN/20 mM octylamine solution, pH6.5
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 20 μL
Detection: UV 254 nm
Peaks: 1. Ceftriaxone
2. Trans-isomer of Ceftriaxone

Lidocaine Hydrochloride



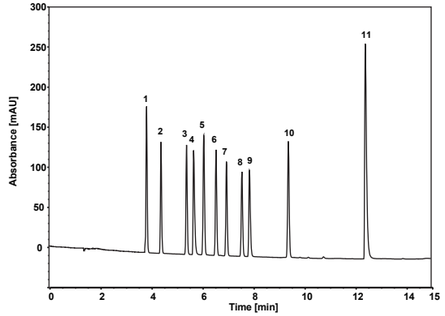
Column: **ChromCore 120 C18**, 5 μm
Dimension: 4.6×150 mm
Mobile Phase: 50/50 v/v MeCN/17.6 mM phosphate buffer, pH8.0
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 20 μL
Detection: UV 230 nm
Peaks: 1. Impurity I (2,6-Dimethylaniline)
2. Lidocaine

Irbesartan



Column: **ChromCore 120 C18**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 38/62 v/v MeCN/10 mM phosphoric acid solution, pH3.2 (adjusted by triethylamine)
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 10 μL
Detection: UV 220 nm
Peaks: 1. Impurity I
2. Irbesartan

Phenolic Compounds (U.S. EPA 604)



Column: **ChromCore 120 C18**, 3 μm
Dimension: 4.6×150 mm
Mobile Phase: A) MeCN
B) 0.1% phosphoric acid in H_2O
Gradient:

t (min)	%A	%B
-5	30	70
0	30	70
15	90	10

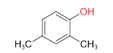
Flow Rate: 1.0 mL/min
Temperature: 40 ℃
Injection: 5 μL
Detection: UV 214 nm
Peaks: 1. Phenol
2. 4-Nitrophenol
3. 2-Chlorophenol
4. 2-Nitrophenol
5. 2,4-Dimethylphenol
6. 2,4-Dinitrophenol
7. 4-Chloro-3-Methylphenol
8. 2,4-Dichlorophenol
9. 2-Methyl-4,6-Dichlorophenol
10. 2,4,6-Trichlorophenol
11. Pentachlorophenol

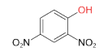

Phenol


4-Nitrophenol

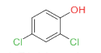

2-Chlorophenol

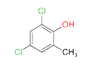

2-Nitrophenol

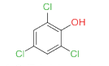

2,4-Dimethylphenol


2,4-Dinitrophenol


4-Chloro-3-Methylphenol


2,4-Dichlorophenol

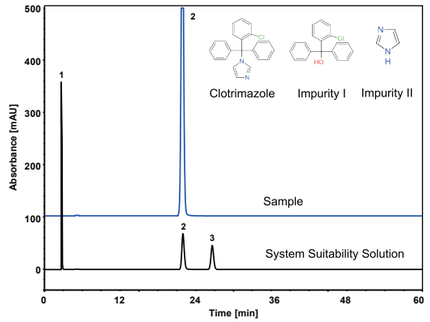

2-Methyl-4,6-Dichlorophenol


2,4,6-Trichlorophenol


Pentachlorophenol

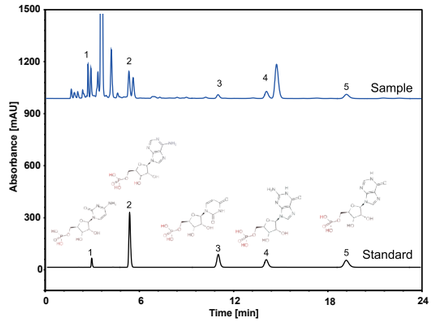
HPLC Columns

Clotrimazole



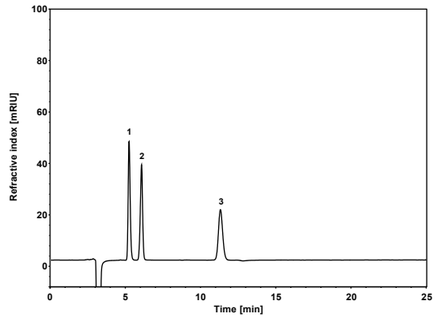
Column: **ChromCore 120 C18**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 70/30 v/v MeOH/50 mM phosphate buffer, pH5.7-5.8
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: System Suitability Solution: 10 μL
Sample: 20 μL
Detection: UV 215 nm
Peaks: 1. Impurity II
2. Clotrimazole
3. Impurity I

Five Nucleotides in Dairy Products

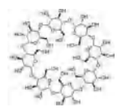


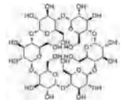
Column: **ChromCore 120 C18**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 96/4 v/v 1.4 mM tetrabutylammonium hydrogen sulfate in 10 mM phosphate buffer, pH2.5/MeOH
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 10 μL
Detection: UV 254 nm
Peaks: 1. CMP
2. AMP
3. UMP
4. GMP
5. IMP

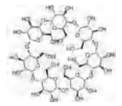
Cyclodextrins



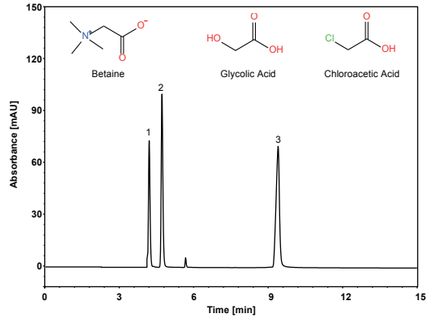
Column: **ChromCore 120 C18**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 7/93 v/v MeOH/H_2O
Flow Rate: 1.0 mL/min
Temperature: 40 ℃
Injection: 50 μL
Detection: RID (40 ℃)
Sample: Standard Mix (0.5 mg/mL each)
Peaks: 1. γ-cyclodextrin
2. α-cyclodextrin
3. β-cyclodextrin


γ-cyclodextrin


α-cyclodextrin

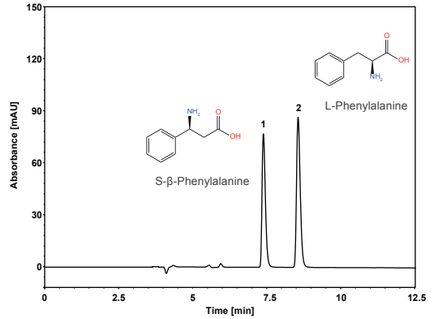

β-cyclodextrin

Betaine, Glycolic Acid and Chloroacetic Acid



Column: **ChromCore 120 C18**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 5/95 v/v MeCN/25 mM phosphate buffer, pH2.5
Flow Rate: 0.6 mL/min
Temperature: 30 ℃
Injection: 5 μL
Detection: UV 210 nm
Sample: Standard Mix (2 mg/mL each)
Peaks: 1. Betaine
2. Glycolic Acid
3. Chloroacetic Acid

Phenylalanine



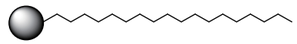
Column: **ChromCore 120 C18**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 10/90 v/v MeCN/0.1% phosphoric acid in H_2O
Flow Rate: 0.5 mL/min
Temperature: 40 ℃
Injection: 10 μL
Detection: UV 210 nm
Sample: Standard Mix (0.05 mg/mL each)
Peaks: 1. S-β-Phenylalanine
2. L-Phenylalanine

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore 120 C18	5	250	A001-050012-04625S	A001-050012-03025S	A001-050012-02125S
		150	A001-050012-04615S	A001-050012-03015S	A001-050012-02115S
		100	A001-050012-04610S	A001-050012-03010S	A001-050012-02110S
		50	A001-050012-04605S	A001-050012-03005S	A001-050012-02105S
	3	150	A001-030012-04615S	A001-030012-03015S	A001-030012-02115S
		100	A001-030012-04610S	A001-030012-03010S	A001-030012-02110S
		50	A001-030012-04605S	A001-030012-03005S	A001-030012-02105S
		30	A001-030012-04603S	A001-030012-03003S	A001-030012-02103S
	1.8	150	/	A001-018012-03015S	A001-018012-02115S
		100	/	A001-018012-03010S	A001-018012-02110S
		50	/	A001-018012-03005S	A001-018012-02105S
		30	/	A001-018012-03003S	A001-018012-02103S

HPLC Columns

ChromCore™ AQ C18 Columns



ChromCore AQ C18 columns are based on proprietary C18 modified silica particles for excellent aqueous compatibility. They are the column of choice for applications requiring highly aqueous mobile phase and/or C18 selectivity.

Main Features

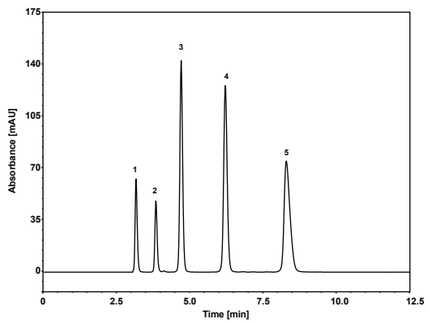
- C18 selectivity with 100% aqueous compatibility
- Excellent chromatographic peak shape for acidic, basic and neutral analytes
- Low column bleed, fully compatible with MS applications
- Good column-to-column consistency

Specifications

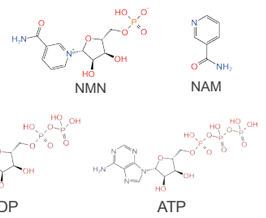
Product Name	ChromCore AQ C18
Functional Group	Octadecyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	1.8, 3 & 5 µm
Pore Size	180 Å
Surface Area	200 m^2/g
Carbon Load	13%
End-capped	Yes
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm 12000 psi for 1.8 µm
Temperature Limit	60 ℃
pH Range	2-10
Aqueous Compatibility	100% aqueous

Applications

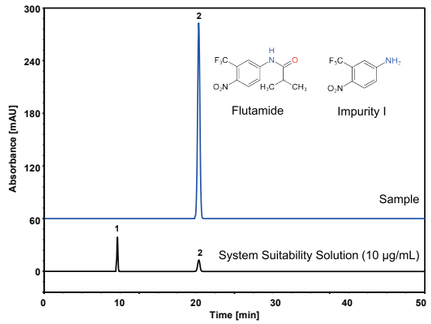
Nicotinamide Mononucleotide



Column: **ChromCore AQ C18**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 25/75 v/v MeOH/40 mM phosphate buffer with 5 mM tetrabutylammonium hydrogen sulfate, pH6.2
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 1 µL
Detection: UV 259 nm
Sample: Standard Mix
Peaks: 1. NMN (0.67 mg/mL)
2. NAM (0.24 mg/mL)
3. AMP (0.78 mg/mL)
4. ADP (0.94 mg/mL)
5. ATP (1.10 mg/mL)

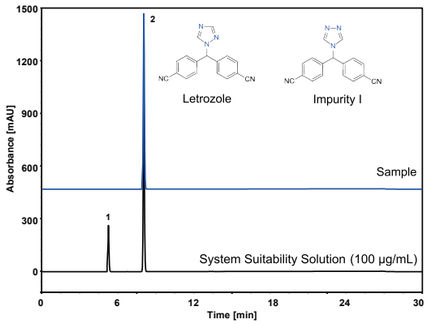


Flutamide



Column: **ChromCore AQ C18**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 55/45 v/v H_2O/MeCN
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 20 µL
Detection: UV 240 nm
Peaks: 1. Impurity I
2. Flutamide

Letrozole

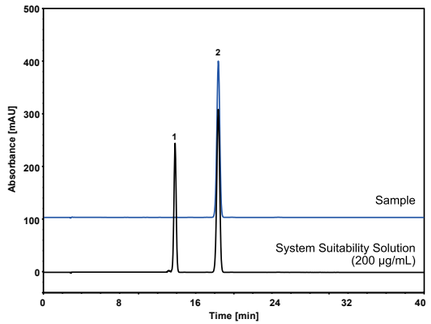


Column: **ChromCore AQ C18**, 5 µm
Dimension: 4.6×150 mm
Mobile Phase: A) H_2O
B) MeCN

Gradient:	t (min)	%A	%B
	0	70	30
	25	30	70
	25.1	70	30
	30	70	30

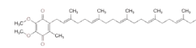
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 20 µL
Detection: UV 230 nm
Peaks: 1. Impurity I
2. Letrozole

Coenzyme Q_9 and Coenzyme Q_{10}

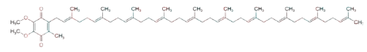


Column: **ChromCore AQ C18**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 50/50 v/v MeOH/EtOH
Flow Rate: 1.0 mL/min
Temperature: 35 ℃
Injection: 20 µL
Detection: UV 275 nm
Peaks: 1. Coenzyme Q_9
2. Coenzyme Q_{10}

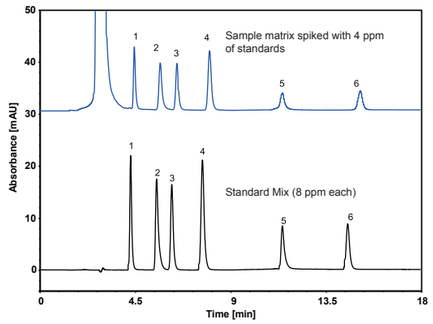
Coenzyme Q_9



Coenzyme Q_{10}



Sildenafil in Urine



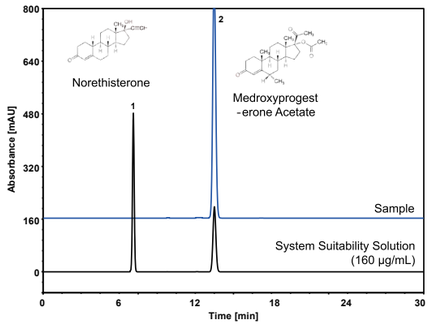
Column: **ChromCore AQ C18**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: A) H_2O
B) MeOH

Gradient:	t (min)	%A	%B
	-10	28	72
	0	28	72
	5.7	28	72
	8.0	20	80
	15.0	20	80
	20.0	28	72

Flow Rate: 1.0 mL/min
Temperature: Room Temperature
Injection: 5 µL
Detection: UV 290 nm
Peaks: 1. Amino Tadalafil
2. N-Desmethyl Sildenafil
3. Sildenafil Citrate
4. Homo Sildenafil
5. Desmethyl Thioxidofen
6. Thiohomosildenafil

HPLC Columns

Medroxyprogesterone Acetate

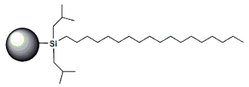


Column: **ChromCore AQ C18**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 70/30 v/v MeOH/H_2O
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 10 µL
Detection: UV 254 nm
Peaks: 1. Norethisterone
2. Medroxyprogesterone Acetate

Ordering Information

Product Name	Particle Size (µm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore AQ C18	5	250	A201-050018-04625S	A201-050018-03025S	A201-050018-02125S
		150	A201-050018-04615S	A201-050018-03015S	A201-050018-02115S
		100	A201-050018-04610S	A201-050018-03010S	A201-050018-02110S
		50	A201-050018-04605S	A201-050018-03005S	A201-050018-02105S
	3	150	A201-030018-04615S	A201-030018-03015S	A201-030018-02115S
		100	A201-030018-04610S	A201-030018-03010S	A201-030018-02110S
		50	A201-030018-04605S	A201-030018-03005S	A201-030018-02105S
		30	A201-030018-04603S	A201-030018-03003S	A201-030018-02103S
	1.8	150	/	A201-018018-03015S	A201-018018-02115S
		100	/	A201-018018-03010S	A201-018018-02110S
		50	/	A201-018018-03005S	A201-018018-02105S
		30	/	A201-018018-03003S	A201-018018-02103S

ChromCore™ AR C18 Columns



ChromCore AR C18 columns are based on bonding a unique sterically protected C18 silane to the surface of high-purity, monodispersed, porous silica particles, designed for applications that require extreme acidic conditions, highly aqueous mobile phases, and/or selectivity complementary to ChromCore C18 columns.

Main Features

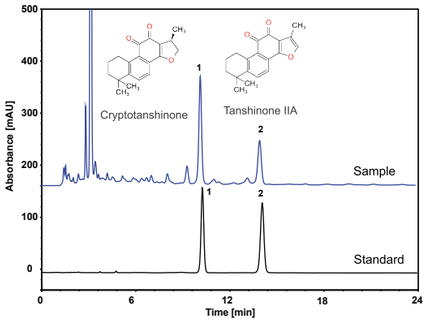
- High tolerance to acidic conditions
- Enhanced retention for highly polar compounds
- 100% aqueous compatibility
- Good column-to-column consistency

Specifications

Product Name	ChromCore AR C18
Functional Group	Sterically protected octadecyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	1.8, 3 & 5 µm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	12%
End-capped	No
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm 12000 psi for 1.8 µm
Temperature Limit	60 ℃
pH Range	1-8
Aqueous Compatibility	100% aqueous

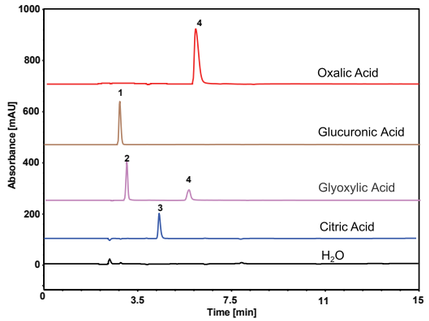
Applications

Clozapine Gel

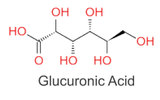


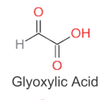
Column: **ChromCore AR C18**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 75/25 v/v MeOH/H_2O
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 10 μL
Detection: UV 254 nm
Peaks: 1. Cryptotanshinone
2. Tanshinone IIA

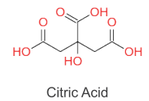
Organic Acids

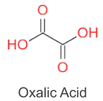


Column: **ChromCore AR C18**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase : 5/95 v/v MeCN/0.1% tetrabutylammonium hydrogen sulfate in 50 mM buffer, pH2.0
Flow Rate: 1.0 mL/min
Temperature: 35 ℃
Injection: 10 μL
Detection: UV 210 nm
Peaks: 1. Glucuronic Acid
2. Glyoxylic Acid
3. Citric Acid
4. Oxalic Acid

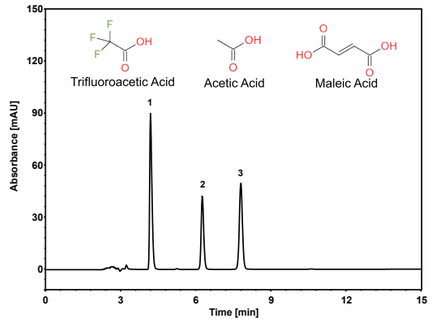

Glucuronic Acid


Glyoxylic Acid


Citric Acid

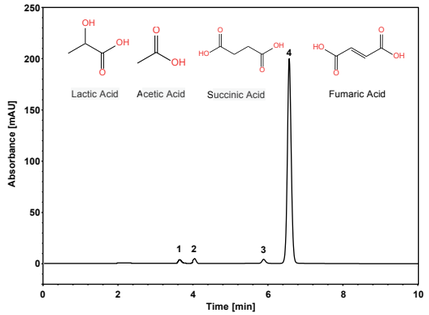

Oxalic Acid

Organic Acids



Column: **ChromCore AR C18**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 55 mM phosphate buffer, pH2.5
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 10 μL
Detection: UV 200 nm
Peaks: 1. Trifluoroacetic Acid (1 mg/mL)
2. Acetic Acid (1 mg/mL)
3. Maleic Acid (8 μg/mL)

Organic Acids

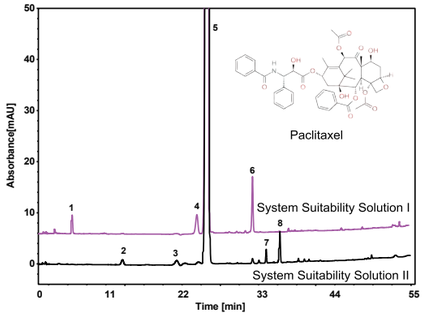


Column: **ChromCore AR C18**, 3 μm
Dimension: 4.6×150 mm
Mobile Phase: A) 10 mM phosphate buffer, pH2.3
B) 55/45 v/v MeCN/10 mM phosphate buffer, pH2.3

Gradient:	t (min)	%A	%B
	0	99	1
	8	95	5
	22	55	45
	27	55	45
	30	99	1
	45	99	1

Flow Rate: 0.8 mL/min
Temperature: 25 ℃
Injection: 20 μL
Detection: UV 210 nm
Sample: Standard Mix
Peaks: 1. Lactic Acid (0.1 mg/mL)
2. Acetic Acid (0.1 mg/mL)
3. Succinic Acid (0.1 mg/mL)
4. Fumaric Acid (25 μg/mL)

Paclitaxel (EP)



Column: **ChromCore AR C18**, 3 μm
Dimension: 4.6×150 mm
Mobile Phase: A) MeCN
B) 2/3 v/v MeCN/H_2O

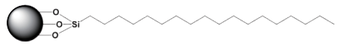
Gradient:	t (min)	%A	%B
	0	0	100
	20	0	100
	60	90	10
	62	0	100
	70	0	100

Flow Rate: 1.2 mL/min
Temperature: 35 ℃
Injection: 15 μL
Detection: UV 227 nm
Peaks: 1. Impurity N
2. Impurity G
3. Impurity A
4. Impurity H
5. Paclitaxel
6. Impurity E
7. Impurity I
8. Impurity L

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore AR C18	5	250	A401-050012-04625S	A401-050012-03025S	A401-050012-02125S
		150	A401-050012-04615S	A401-050012-03015S	A401-050012-02115S
		100	A401-050012-04610S	A401-050012-03010S	A401-050012-02110S
		50	A401-050012-04605S	A401-050012-03005S	A401-050012-02105S
	3	150	A401-030012-04615S	A401-030012-03015S	A401-030012-02115S
		100	A401-030012-04610S	A401-030012-03010S	A401-030012-02110S
		50	A401-030012-04605S	A401-030012-03005S	A401-030012-02105S
		30	A401-030012-04603S	A401-030012-03003S	A401-030012-02103S
	1.8	150	A401-018012-04615S	A401-018012-03015S	A401-018012-02115S
		100	A401-018012-04610S	A401-018012-03010S	A401-018012-02110S
		50	A401-018012-04605S	A401-018012-03005S	A401-018012-02105S
		30	A401-018012-04603S	A401-018012-03003S	A401-018012-02103S

ChromCore™ BR C18 Columns



ChromCore BR C18 columns are based on bonding C18 functional groups to the surface organic-inorganic hybrid silica particles, designed for applications that require pH extremes, especially alkaline conditions, highly aqueous mobile phases, or selectivity complementary to ChromCore AQ C18 columns.

Main Features

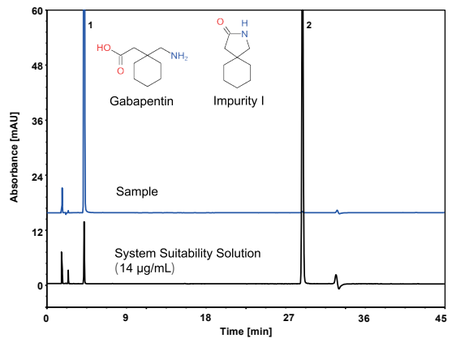
- Enhanced hydrolytic stability under alkaline conditions
- Good peak shape for both acidic and basic compounds
- Low column bleed, compatible with MS applications

Specifications

Product Name	ChromCore BR C18
Functional Group	Octadecyl
Substrate	Surface organic-inorganic hybrid, monodispersed, porous, spherical silica particles
Particle Size	1.8, 3 & 5 μm
Pore Size	180 Å
Surface Area	130 m^2/g
Carbon Load	12%
End-capped	Yes
Pressure Limit	5000 psi for 5 μm 6000 psi for 3 μm 12000 psi for 1.8 μm
Temperature Limit	60 ℃
pH Range	1.5-11.0
Aqueous Compatibility	95% aqueous

Applications

Gabapentin

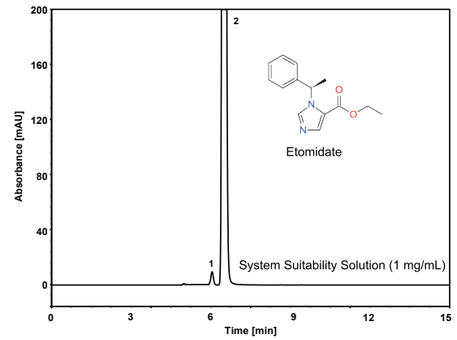


Column: **ChromCore BR C18**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: A) 6/94 v/v MeCN/9.4 mM phosphate buffer, pH6.9 adjusted by 5 M KOH solution
B) 30/70 v/v MeCN/ 9.4 mM phosphate buffer, pH6.9 adjusted by 5 M KOH solution

Gradient:	t (min)	%A	%B
	0	100	0
	7	100	0
	45	0	100

Flow Rate: 1.5 mL/min
Temperature: 40 ℃
Injection: 20 μL
Detection: UV 210 nm
Peaks: 1. Gabapentin
2. Impurity I

Etomidate



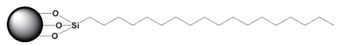
Column: **ChromCore BR C18**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 60/40 v/v MeOH/0.062% ammonium acetate solution
Flow Rate: 1.0 mL/min
Temperature: 50 ℃
Injection: 5 μL
Detection: UV 240 nm
Peaks: 1. Impurity I
2. Etomidate

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore BR C18	5	250	A301-050018-04625S	A301-050018-03025S	A301-050018-02125S
		150	A301-050018-04615S	A301-050018-03015S	A301-050018-02115S
		100	A301-050018-04610S	A301-050018-03010S	A301-050018-02110S
		50	A301-050018-04605S	A301-050018-03005S	A301-050018-02105S
	3	150	A301-030018-04615S	A301-030018-03015S	A301-030018-02115S
		100	A301-030018-04610S	A301-030018-03010S	A301-030018-02110S
		50	A301-030018-04605S	A301-030018-03005S	A301-030018-02105S
		30	A301-030018-04603S	A301-030018-03003S	A301-030018-02103S
	1.8	150	A301-018018-04615S	A301-018018-03015S	A301-018018-02115S
		100	A301-018018-04610S	A301-018018-03010S	A301-018018-02110S
		50	A301-018018-04605S	A301-018018-03005S	A301-018018-02105S
		30	A301-018018-04603S	A301-018018-03003S	A301-018018-02103S

HPLC Columns

ChromCore™ T3 Columns



ChromCore T3 columns are based on innovative monodispersed particle technology and proprietary C18 bonding chemistry, designed for separating highly polar compounds under reversed phase conditions.

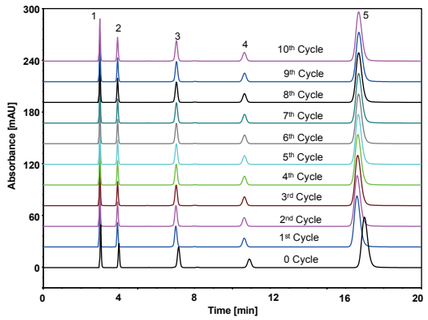
Main Features

- C18 selectivity with 100% aqueous compatibility
- Excellent retention for polar compounds
- Low column bleed, fully compatible with MS applications
- Good column-to-column consistency

Specifications

Product Name	ChromCore T3
Functional Group	Octadecyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	5 µm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	15%
End-capped	Yes
Pressure Limit	5000 psi
Temperature Limit	60 ℃
pH Range	2-8
Aqueous Compatibility	100% aqueous

100% Aqueous Compatibility



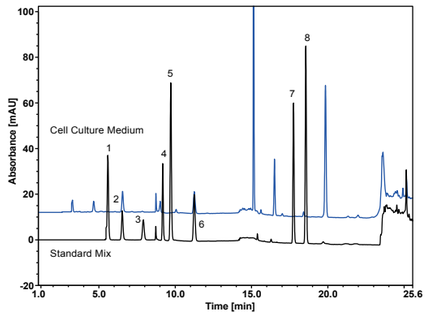
Column: **ChromCore T3**, 5 µm
Dimension: 4.6×150 mm
Mobile Phase: 100 mM CH_3COONH_4, pH5.2
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 10 µL
Detection: UV 254 nm
Peaks: 1. Cytosine (10 µg/mL)
2. Uracil (5 µg/mL)
3. Guanine (10 µg/mL)
4. Thymine (10 µg/mL)
5. Adenine (20 µg/mL)

Protocol:
Step 1. Equilibrate column with the mobile phase for 20 min
Step 2. Start running the test for 10 min
Step 3. Stop flow for 10 min
Step 4. Repeat “Step 2” and “Step 3” for additional 9 cycles

The unique column chemistry ensures excellent compatibility with highly aqueous mobile phase.

Applications

Water-soluble Vitamins in Cell Culture Medium

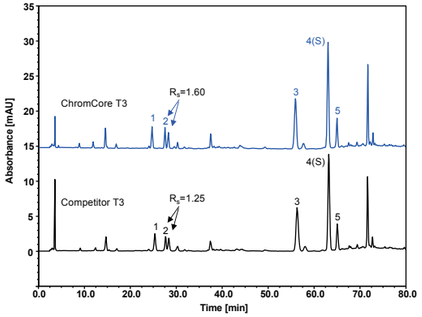


Column: **ChromCore T3**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: A) 0.1% TFA in H_2O
B) 0.1% TFA in MeCN
Gradient:

t (min)	%A	%B
0	100	0
1	100	0
9	97	3
10.6	85	15
20	75	25
20.5	5	95
23	5	95
23.2	100	0
28.0	100	0

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 10 µL
Detection: UV 262 nm
Samples: Cell culture media/Standard mix
Peaks: 1. Ascorbic Acid (20 µg/mL)
2. Nicotinamide (10 µg/mL)
3. Niacin (10 µg/mL)
4. Thiamine (10 µg/mL)
5. Pyridoxal (10 µg/mL)
6. Pyridoxine (10 µg/mL)
7. Caffeine (10 µg/mL)
8. Riboflavin (10 µg/mL)

Tusizi Peifangkeli



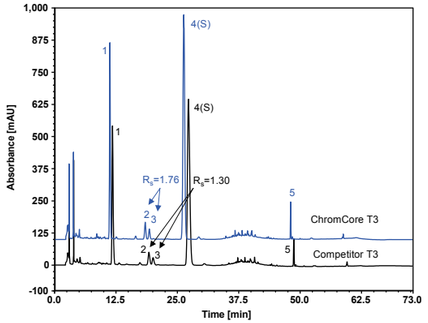
Columns: **ChromCore T3**, 5 µm
Competitor T3, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: A) 0.1% phosphoric acid in H_2O
B) MeCN
Gradient:

t (min)	%A	%B
0	93	7
30	88	12
35	85	15
5	85	15
80	70	30
85	7	93
90	7	93

Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 5 µL
Detection: UV 360 nm
Sample: Tusizi Peifangkeli (8 mg/mL in 70% EtOH)
Peaks: 1. Chlorogenic Acid
2. Cryptochlorogenic Acid
4. Hyperin
5. Isoquercitrin

HPLC Columns

Qinjiao Peifangkeli

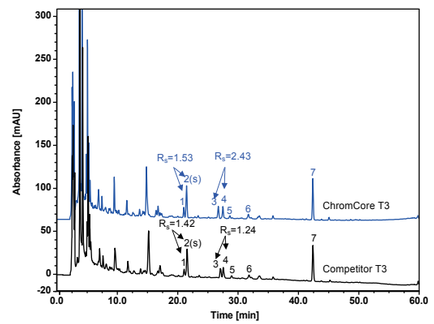


Columns: **ChromCore T3**, 5 μm
Competitor T3, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: A) 0.05% phosphoric acid in H_2O
B) MeCN

Gradient:	t (min)	%A	%B
	0	91	9
	28	90	10
	58	10	90
	63	91	9
	73	91	9

Flow Rate: 1.0 mL/min
Temperature: 40 ℃
Injection: 10 μL
Detection: UV 240 nm
Sample: Qinjiao Peifangkeli (5 mg/mL in MeOH)
Peaks: 1. Loganic Acid
4. Gentiopicroside

Foshou Peifangkeli



Columns: **ChromCore T3**, 5 μm
Competitor T3, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: A) 0.1% phosphoric acid in H_2O
B) MeCN

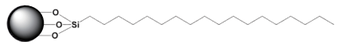
Gradient:	t (min)	%A	%B
	0	85	15
	30	70	30
	50	40	60
	55	15	85
	60	15	85

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 10 μL
Detection: UV 284 nm
Sample: Foshou Peifangkeli (33 mg/mL in MeOH)
Peaks: 1. Diosmin
2. Hesperidin
6. Oxypeucedanin Hydrate
7. 5,7-dimethoxycoumarin

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore T3	5	250	A711-050012-04625S	A711-050012-03025S	A711-050012-02125S
		150	A711-050012-04615S	A711-050012-03015S	A711-050012-02115S
		100	A711-050012-04610S	A711-050012-03010S	A711-050012-02110S
		50	A711-050012-04605S	A711-050012-03005S	A711-050012-02105S
		30	A711-050012-04603S	A711-050012-03003S	A711-050012-02103S

ChromCore™ 120 C18-T Columns



ChromCore 120 C18-T columns are based on bonding C18 functional groups to the surface of high-purity, monodispersed, porous silica particles through three siloxane linkages, designed for applications that require extended pH range or high shape selectivity.

Main Features

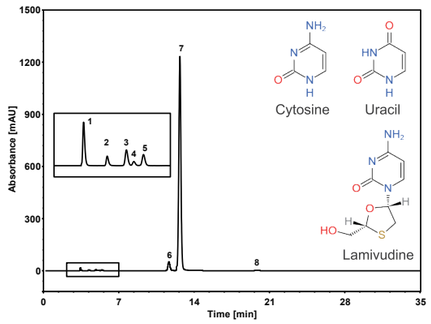
- Enhanced hydrolytic stability for long column life
- Good peak shape for both acidic and basic compounds
- Enhanced shape selectivity for structural related compounds
- Low column bleed, compatible with MS applications

Specifications

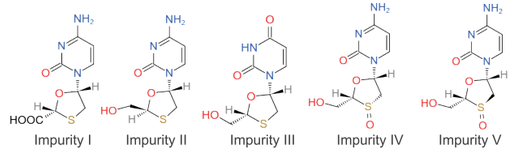
Product Name	ChromCore 120 C18-T
Functional Group	Octadecyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 & 5 μm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	18%
End-capped	Yes
Pressure Limit	5000 psi for 5 μm 6000 psi for 3 μm
Temperature Limit	60 ℃
pH Range	1.5-10.0
Aqueous Compatibility	95% aqueous

Applications

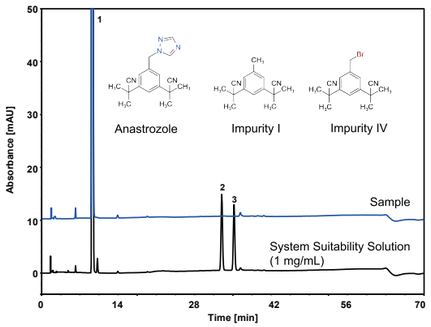
Lamivudine



Column: **ChromCore 120 C18-T**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 5/95 v/v MeOH/25 mM ammonium acetate solution, pH3.8
Flow Rate: 1.0 mL/min
Temperature: 35 ℃
Injection: 10 μL
Detection: UV 277 nm
Sample: System Suitability Solution
Peaks: 1. Cytosine 2. Uracil 3. Impurity I
4. Impurity IV 5. Impurity V 6. Impurity II
7. Lamivudine 8. Impurity III



Anastrozole

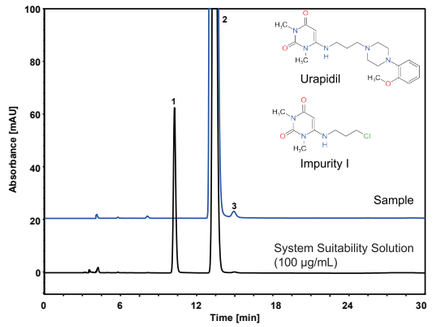


Column: **ChromCore 120 C18-T**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: A) 40/60 v/v MeCN/H_2O
B) 60/40 v/v MeCN/H_2O

Gradient:	t (min)	%A	%B
	0	100	0
	10	100	0
	55	0	100
	60	0	100
	61	100	0
	70	100	0

Flow Rate: 1.0 mL/min
Temperature: 35 ℃
Injection: 10 µL
Detection: UV 215 nm
Peaks: 1. Anastrozole
2. Impurity I
3. Impurity IV

Urapidil

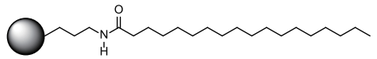


Column: **ChromCore 120 C18-T**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 30/70 v/v MeOH/100 mM sodium acetate solution
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 20 µL
Detection: UV 268 nm
Peaks: 1. Impurity I
2. Urapidil
3. Impurity II

Ordering Information

Product Name	Particle Size (µm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore 120 C18-T	5	250	A501-050012-04625S	A501-050012-03025S	A501-050012-02125S
		150	A501-050012-04615S	A501-050012-03015S	A501-050012-02115S
		100	A501-050012-04610S	A501-050012-03010S	A501-050012-02110S
		50	A501-050012-04605S	A501-050012-03005S	A501-050012-02105S
	3	150	A501-030012-04615S	A501-030012-03015S	A501-030012-02115S
		100	A501-030012-04610S	A501-030012-03010S	A501-030012-02110S
		50	A501-030012-04605S	A501-030012-03005S	A501-030012-02105S
		30	A501-030012-04603S	A501-030012-03003S	A501-030012-02103S

ChromCore™ Polar C18 Columns



ChromCore Polar C18 columns are based on amide-embedded C18 modified monodispersed, porous silica particles with exhaustive end-capping, designed for applications that require highly aqueous mobile phase and/or selectivity different from conventional C18.

Main Features

- Selectivity complementary to conventional C18 column
- Enhanced retention for polar compounds especially containing hydrogen bond donor
- 100% aqueous compatibility
- Low column bleed, compatible with MS applications

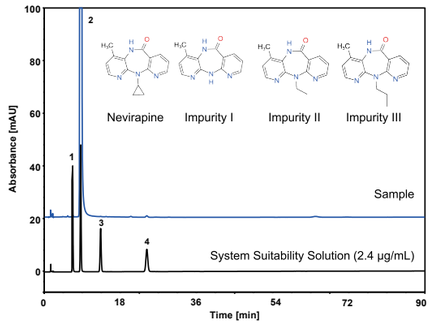
Specifications

Product Name	ChromCore Polar C18
Functional Group	Amide-embedded octadecyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 & 5 µm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	18%
End-capped	Yes
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm
Temperature Limit	60 ℃
pH Range	2-10
Aqueous Compatibility	100% aqueous

HPLC Columns

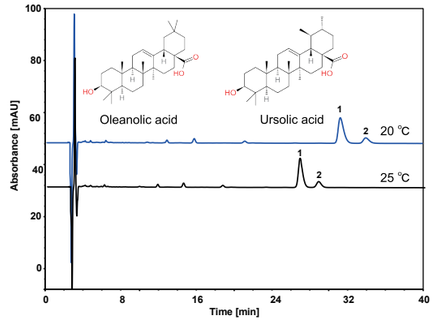
Applications

Nevirapine



Column: **ChromCore Polar C18**, 5 μm
Dimension: 4.6×150 mm
Mobile Phase: 20/80 v/v MeCN/25 mM phosphate buffer, pH5.0
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: System Suitability Solution: 25 μL
Sample: 50 μL
Detection: UV 220 nm
Peaks: 1. Impurity I
2. Nevirapine
3. Impurity II
4. Impurity III

Loquat Leaf



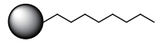
Column: **ChromCore Polar C18**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 67/12/21 v/v/v MeCN/MeOH/0.5% ammonium acetate solution
Flow Rate: 1.0 mL/min
Temperature: 20 ℃ /25 ℃
Injection: 10 μL
Detection: UV 210 nm
Peaks: 1. Oleanolic acid
2. Ursolic acid

Temperature	R_s
20 ℃	2.42
25 ℃	2.16

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore Polar C18	5	250	A060-050012-04625S	A060-050012-03025S	A060-050012-02125S
		150	A060-050012-04615S	A060-050012-03015S	A060-050012-02115S
		100	A060-050012-04610S	A060-050012-03010S	A060-050012-02110S
		50	A060-050012-04605S	A060-050012-03005S	A060-050012-02105S
	3	150	A060-030012-04615S	A060-030012-03015S	A060-030012-02115S
		100	A060-030012-04610S	A060-030012-03010S	A060-030012-02110S
		50	A060-030012-04605S	A060-030012-03005S	A060-030012-02105S
		30	A060-030012-04603S	A060-030012-03003S	A060-030012-02103S

ChromCore™ 120 C8 Columns



ChromCore 120 C8 columns are based on high surface coverage C8 modified silica particles with exhaustive end-capping to minimize undesired silanol activity, designed for separating analytes with intermediate to high hydrophobicity.

Main Features

- Well suited for separating compounds with intermediate to high hydrophobicity
- Excellent chromatographic peak shape for acidic, basic and neutral analytes
- Good aqueous compatibility
- Good column-to-column consistency

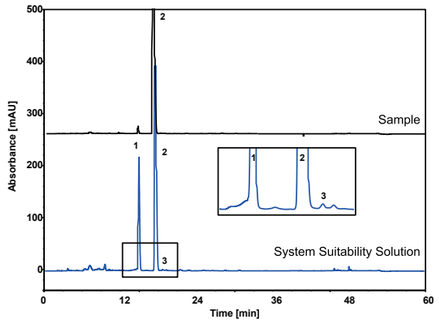
Specifications

Product Name	ChromCore 120 C8
Functional Group	Octyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	1.8, 3 & 5 μm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	10%
End-capped	Yes
Pressure Limit	5000 psi for 5 μm 6000 psi for 3 μm 12000 psi for 1.8 μm
Temperature Limit	60 ℃
pH Range	2-10
Aqueous Compatibility	95% aqueous

HPLC Columns

Applications

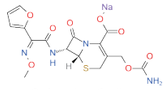
Cefuroxime Sodium



Column: **ChromCore 120 C8**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: A) MeCN
B) 104.2 mM sodium acetate solution, pH3.4

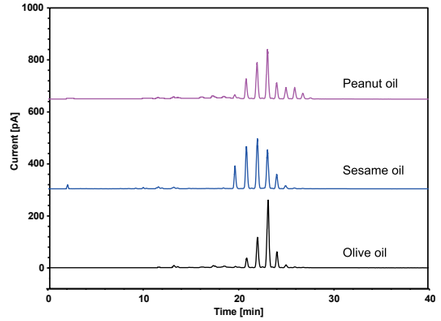
Gradient:	t (min)	%A	%B
	0	5	95
	40	20	80
	50	40	60
	51	5	95
	60	5	95

Flow Rate: 1.5 mL/min
Temperature: 30 ℃
Injection: 20 µL
Detection: UV 273 nm
Peaks: 1. Descarbamoyl Cefuroxime
2. Cefuroxime
3. Impurity



Cefuroxime Sodium

Cooking Oil

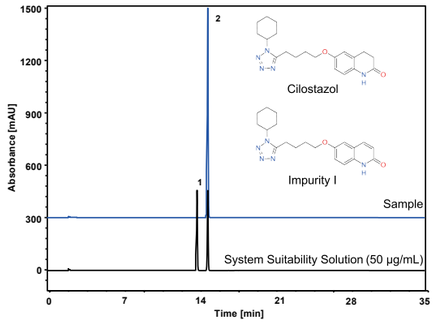


Column: **ChromCore 120 C8**, 5 µm
Dimension: 4.6×150 mm
Mobile Phase: A) MeCN
B) Isopropanol
C) 100 mM ammonium acetate solution, pH5.0

Gradient:	t (min)	%A	%B	%C
	-10	90	5	5
	0	90	5	5
	30	0	95	5
	40	0	95	5

Flow Rate: 1.0 mL/min
Injection: 5 µL
Temperature: 30 ℃
Detection: CAD
Sample: Cooking Oil (5 mg/mL dissolved in isopropanol)

Cilostazol

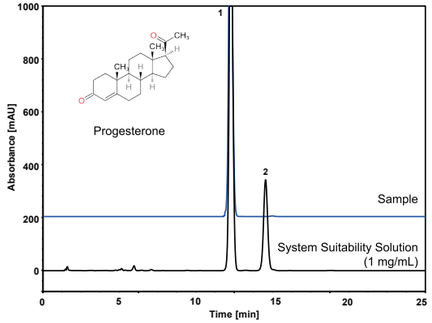


Column: **ChromCore 120 C8**, 5 µm
Dimension: 4.6×150 mm
Mobile Phase: A) H_2O
B) MeCN

Gradient:	t (min)	%A	%B
	0	80	20
	6.5	70	30
	17	40	60
	27	40	60
	28	80	20
	35	80	20

Flow Rate: 1.0 mL/min
Temperature: 40 ℃
Injection: 20 µL
Detection: UV 254 nm
Peaks: 1. Impurity I
2. Cilostazol

Progesterone



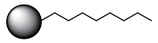
Column: **ChromCore 120 C8**, 5 µm
Dimension: 4.6×150 mm
Mobile Phase: 25/35/40 v/v/v MeOH/MeCN/H_2O
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 10 µL
Detection: UV 241 nm
Peaks: 1. Progesterone
2. Degradation Product

Ordering Information

Product Name	Particle Size (µm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore 120 C8	5	250	A007-050012-04625S	A007-050012-03025S	A007-050012-02125S
		150	A007-050012-04615S	A007-050012-03015S	A007-050012-02115S
		100	A007-050012-04610S	A007-050012-03010S	A007-050012-02110S
		50	A007-050012-04605S	A007-050012-03005S	A007-050012-02105S
	3	150	A007-030012-04615S	A007-030012-03015S	A007-030012-02115S
		100	A007-030012-04610S	A007-030012-03010S	A007-030012-02110S
		50	A007-030012-04605S	A007-030012-03005S	A007-030012-02105S
		30	A007-030012-04603S	A007-030012-03003S	A007-030012-02103S
	1.8	150	/	A007-018012-03015S	A007-018012-02115S
		100	/	A007-018012-03010S	A007-018012-02110S
		50	/	A007-018012-03005S	A007-018012-02105S
		30	/	A007-018012-03003S	A007-018012-02103S

HPLC Columns

ChromCore™ AQ C8 Columns



ChromCore AQ C8 columns are based on high surface coverage C8 modified silica particles with exhaustive end-capping to minimize undesired silanol activity, designed for separating analytes with intermediate to high hydrophobicity in highly aqueous mobile phase.

Main Features

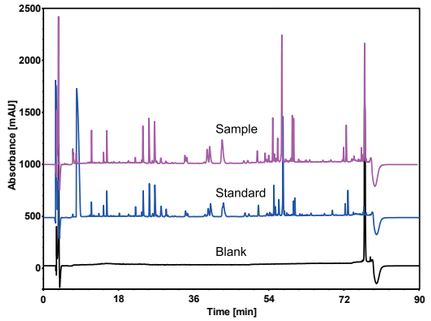
- C8 selectivity with 100% aqueous compatibility
- Well suited for separating compounds with intermediate to high hydrophobicity
- Excellent chromatographic peak shape for acidic, basic and neutral analytes
- Low column bleed, fully compatible with MS applications
- Good column-to-column consistency

Specifications

Product Name	ChromCore AQ C8
Functional Group	Octyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	1.8, 3 & 5 µm
Pore Size	180 Å
Surface Area	200 m^2/g
Carbon Load	7%
End-capped	Yes
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm 12000 psi for 1.8 µm
Temperature Limit	60 ℃
pH Range	2-10
Aqueous Compatibility	100% aqueous

Applications

Peptide Mapping of rhGH



Column: **ChromCore AQ C8**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: A) 0.1% TFA in H_2O
B) 0.1% TFA in 90% MeCN/H_2O

Gradient: t (min)	%A	%B
0	100	0
20	80	20
45	75	25
70	50	50
75	20	80
75.1	100	0
90	100	0

Flow Rate: 1.0 mL/min
Temperature: 35 ℃
Injection: 100 µL
Detection: UV 214 nm
Sample: Enzymatic hydrolysates of rhGH by trypsin

Ordering Information

Product Name	Particle Size (µm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore AQ C8	5	250	A207-050018-04625S	A207-050018-03025S	A207-050018-02125S
		150	A207-050018-04615S	A207-050018-03015S	A207-050018-02115S
		100	A207-050018-04610S	A207-050018-03010S	A207-050018-02110S
		50	A207-050018-04605S	A207-050018-03005S	A207-050018-02105S
	3	150	A207-030018-04615S	A207-030018-03015S	A207-030018-02115S
		100	A207-030018-04610S	A207-030018-03010S	A207-030018-02110S
		50	A207-030018-04605S	A207-030018-03005S	A207-030018-02105S
		30	A207-030018-04603S	A207-030018-03003S	A207-030018-02103S
	1.8	150	/	A207-018018-03015S	A207-018018-02115S
		100	/	A207-018018-03010S	A207-018018-02110S
		50	/	A207-018018-03005S	A207-018018-02105S
		30	/	A207-018018-03003S	A207-018018-02103S

HPLC Columns

ChromCore™ C30 Columns

ChromCore C30 columns are based on C30 modified silica particles with exhaustive end-capping, designed for separating structurally related compounds with large molecular size.

Main Features

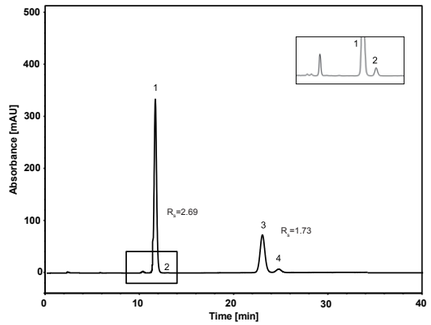
- Excellent selectivity for highly hydrophobic, long-chain and structurally related compounds
- Enhanced shape selectivity for geometric and positional isomers
- Compatible with both highly aqueous and highly organic solvent conditions
- Good column-to-column consistency

Specifications

Product Name	ChromCore C30
Functional Group	Triacontyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 & 5 µm
Pore Size	180 Å
Surface Area	200 m^2/g
Carbon Load	11%
End-capped	Yes
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm
Temperature Limit	60 ℃
pH Range	2-10
Aqueous Compatibility	100% aqueous

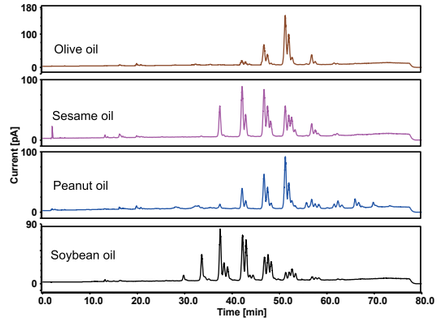
Applications

Isomers of Vitamin K1 and K2



Column: **ChromCore C30**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 95/5 v/v MeOH/H_2O
Flow Rate: 1.0 mL/min
Temperature: 20 ℃
Injection: 5 µL
Detection: UV 254 nm
Sample: Vitamin K1 & K2 in MeCN
Peaks: 1. Vitamin K2
2. Isomer of Vitamin K2
3. Vitamin K1
4. Isomer of Vitamin K1

Lipids

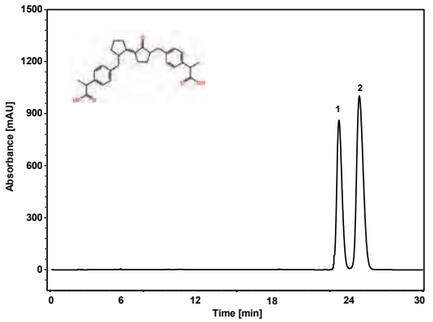


Column: **ChromCore C30**, 5 µm
Dimension: 4.6×150 mm
Mobile Phase: A) MeCN
B) 100 mM ammonium acetate solution, pH5.0
C) IPA

Gradient:	t (min)	%A	%B	%C
	-10	85	5	10
	0	85	5	10
	10	65	5	30
	60	20	5	75
	70	5	5	90
	80	5	5	90

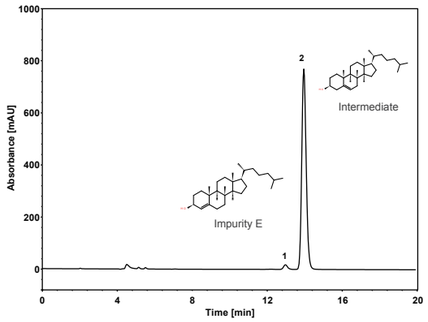
Flow Rate: 1.0 mL/min
Temperature : 30 ℃
Injection: 5 µL
Detection: CAD
Sample: Cooking oils (5 mg/mL)

Cis-trans Isomers



Column: **ChromCore C30**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 50/50 v/v MeCN/0.1% phosphoric acid in H_2O
Flow Rate: 1.0 mL/min
Temperature: 40 ℃
Injection: 10 µL
Detection: UV 254 nm
Peaks: 1~2. Cis-trans Isomers

Pharmaceutical Intermediates

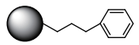


Column: **ChromCore C30**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: MeOH
Flow Rate: 0.8 mL/min
Temperature: 30 ℃
Injection: 10 µL
Detection: UV 207 nm
Peaks: 1. Impurity E (20 µg/ml in MeOH)
2. Intermediate (2 mg/mL in MeOH)

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	I.D. (mm)		
			4.6	3.0	2.1
ChromCore C30	5	250	A062-050018-04625S	A062-050018-03025S	A062-050018-02125S
		150	A062-050018-04615S	A062-050018-03015S	A062-050018-02115S
		100	A062-050018-04610S	A062-050018-03010S	A062-050018-02110S
		50	A062-050018-04605S	A062-050018-03005S	A062-050018-02105S
	3	250	A062-030018-04625S	A062-030018-03025S	A062-030018-02125S
		150	A062-030018-04615S	A062-030018-03015S	A062-030018-02115S
		100	A062-030018-04610S	A062-030018-03010S	A062-030018-02110S
		50	A062-030018-04605S	A062-030018-03005S	A062-030018-02105S
		30	A062-030018-04603S	A062-030018-03003S	A062-030018-02103S

ChromCore™ Phenyl Columns



ChromCore Phenyl columns are based on high surface coverage propylbenzene modified silica particles with exhaustive end-capping. They are designed for a broad range of applications that require selectivity towards aromatic analytes, such as isomers of aromatic and heterocyclic pharmaceuticals and catechins.

Main Features

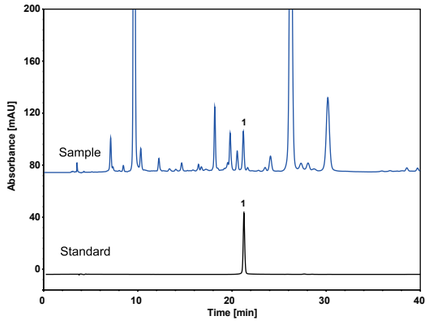
- Desired selectivity for aromatic and heterocyclic compounds based on hydrophobic and π-π interactions
- Selectivity complementary to C18
- Low column bleed, compatible with MS applications
- Good column-to-column consistency

Specifications

Product Name	ChromCore Phenyl
Functional Group	Propylphenyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	1.8, 3 & 5 μm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	12%
End-capped	Yes
Pressure Limit	5000 psi for 5 μm 6000 psi for 3 μm 12000 psi for 1.8 μm
Temperature Limit	60 ℃
pH Range	2-8
Aqueous Compatibility	95% aqueous

Applications

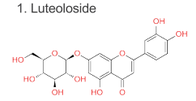
Honeysuckle



Column: **ChromCore Phenyl**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: A) 0.5% acetic acid in H_2O
B) MeCN

Gradient:	t (min)	%A	%B
	0	90	10
	15	80	20
	30	80	20
	40	70	30

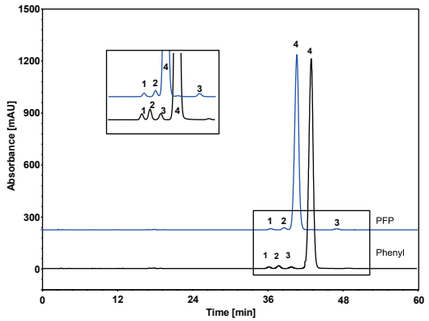
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 10 μL
Detection: UV 350 nm
Peak: 1. Luteoloside



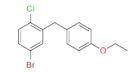
Luteoloside

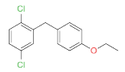
HPLC Columns

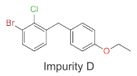
Dapagliflozin Intermediate



Columns: **ChromCore Phenyl**, 5 µm
ChromCore PFP, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 75/25 v/v MeOH/H_2O
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 10 µL
Detection: UV 226 nm
Peaks: 1. Impurity F (0.1 mg/mL)
2. Impurity C (0.1 mg/mL)
3. Impurity D (0.1 mg/mL)
4. Dapagliflozin Intermediate (1 mg/mL)

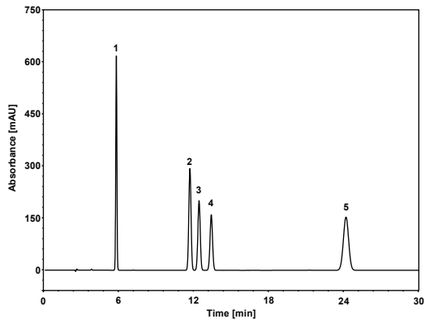

Dapagliflozin Intermediate


Impurity C

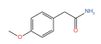

Impurity D

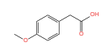

Impurity F

Pharmaceutical Intermediates



Column: **ChromCore Phenyl**, 3 µm
Dimension: 4.6×250 mm
Mobile Phase: 20/80/0.1 v/v/v MeCN/H_2O/phosphoric acid
Flow Rate: 0.8 mL/min
Temperature: 40 ℃
Injection: 5 µL
Detection: UV 225 nm
Sample: Standard Mix (0.2 mg/mL each)
Peaks: 1. 4-Methoxyphenyl Acetamide
2. 4-methoxyphenyl Acetic Acid
3. 3-Methoxyphenyl Acetic Acid
4. 2-Methoxyphenyl Acetic Acid
5. 4-Methoxyphenyl Acetonitrile


4-Methoxyphenyl Acetamide


4-methoxyphenyl Acetic Acid


3-Methoxyphenyl Acetic Acid

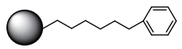
2-Methoxyphenyl Acetic Acid


4-Methoxyphenyl Acetonitrile

Ordering Information

Product Name	Particle Size (µm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore Phenyl	5	250	A011-050012-04625S	A011-050012-03025S	A011-050012-02125S
		150	A011-050012-04615S	A011-050012-03015S	A011-050012-02115S
		100	A011-050012-04610S	A011-050012-03010S	A011-050012-02110S
		50	A011-050012-04605S	A011-050012-03005S	A011-050012-02105S
	3	150	A011-030012-04615S	A011-030012-03015S	A011-030012-02115S
		100	A011-030012-04610S	A011-030012-03010S	A011-030012-02110S
		50	A011-030012-04605S	A011-030012-03005S	A011-030012-02105S
		30	A011-030012-04603S	A011-030012-03003S	A011-030012-02103S
	1.8	150	A011-018012-04615S	A011-018012-03015S	A011-018012-02115S
		100	A011-018012-04610S	A011-018012-03010S	A011-018012-02110S
		50	A011-018012-04605S	A011-018012-03005S	A011-018012-02105S
		30	A011-018012-04603S	A011-018012-03003S	A011-018012-02103S

ChromCore™ Phenyl-Hexyl Columns



ChromCore Phenyl-Hexyl columns are based on high surface coverage hexylbenzene modified silica particles with exhaustive end-capping. They are designed for a broad range of applications that require enhanced hydrophobic retention and selectivity towards aromatic analytes, such as isomers of aromatic and heterocyclic pharmaceuticals and catechins.

Main Features

- Desired selectivity for polar aromatic and heterocyclic compounds
- Enhanced hydrophobic retention compared to other phenyl stationary phases
- Low column bleed, compatible with MS applications
- Good column-to-column consistency

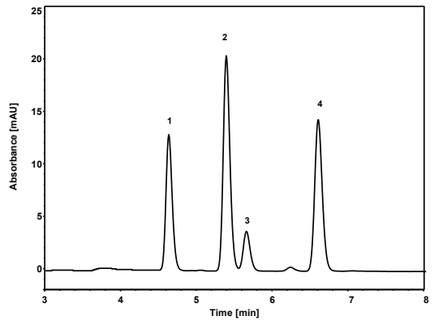
Specifications

Product Name	ChromCore Phenyl-Hexyl
Functional Group	Phenyl-Hexyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	1.8, 3 & 5 µm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	14%
End-capped	Yes
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm 12000 psi for 1.8 µm
Temperature Limit	60 ℃
pH Range	2-9
Aqueous Compatibility	95% aqueous

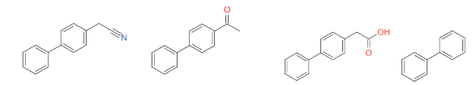
HPLC Columns

Applications

4-Biphenylacetic acid



Column: **ChromCore Phenyl-Hexyl**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 68/15/17 v/v/v MeOH/MeCN/0.1% acetic acid in H_2O
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 20 µL
Detection: UV 251 nm
Sample: Standard Mix (0.6 µg/mL)
Peaks: 1. 4-Biphenylacetonitrile
2. 4-Acetylbiphenyl
3. 4-Biphenylacetic acid
4. Biphenyl

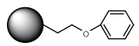


4-Biphenylacetonitrile 4-Acetylbiphenyl 4-Biphenylacetic acid Biphenyl

Ordering Information

Product Name	Particle Size (µm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore Phenyl-Hexyl	5	250	A311-050012-04625S	A311-050012-03025S	A311-050012-02125S
		150	A311-050012-04615S	A311-050012-03015S	A311-050012-02115S
		100	A311-050012-04610S	A311-050012-03010S	A311-050012-02110S
		50	A311-050012-04605S	A311-050012-03005S	A311-050012-02105S
	3	150	A311-030012-04615S	A311-030012-03015S	A311-030012-02115S
		100	A311-030012-04610S	A311-030012-03010S	A311-030012-02110S
		50	A311-030012-04605S	A311-030012-03005S	A311-030012-02105S
		30	A311-030012-04603S	A311-030012-03003S	A311-030012-02103S
	1.8	150	A311-018012-04615S	A311-018012-03015S	A311-018012-02115S
		100	A311-018012-04610S	A311-018012-03010S	A311-018012-02110S
		50	A311-018012-04605S	A311-018012-03005S	A311-018012-02105S
		30	A311-018012-04603S	A311-018012-03003S	A311-018012-02103S

ChromCore™ Phenyl-Ether Columns



ChromCore Phenyl-Ether columns are based on high surface coverage ethoxybenzene modified silica particles with exhaustive end-capping. They are designed for a broad range of applications that require selectivity towards aromatic analytes, such as isomers of aromatic and heterocyclic pharmaceuticals and catechins.

Main Features

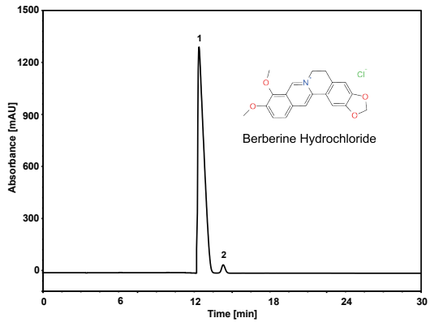
- Unique selectivity for polar aromatic and heterocyclic compounds based on hydrophobic and π-π interaction
- Complementary selectivity to C18 and other phenyl phases
- Low column bleed, compatible with MS applications
- Good column-to-column consistency

Specifications

Product Name	ChromCore Phenyl-Ether
Functional Group	Phenyl-ethoxyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	5 µm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	12%
End-capped	Yes
Pressure Limit	5000 psi for 5 µm
Temperature Limit	60 ℃
pH Range	2-9
Aqueous Compatibility	95% aqueous

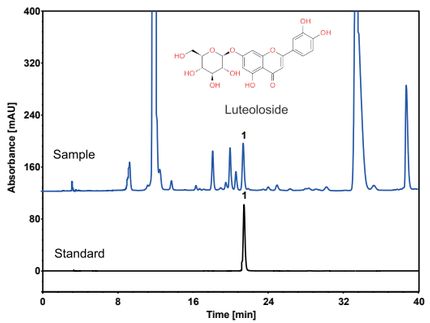
Applications

Berberine Hydrochloride



Column: **ChromCore Phenyl-Ether**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 25/75 v/v MeCN/10 mM ammonium phosphate buffer, pH2.8
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 10 µL
Detection: UV 228 nm
Peaks: 1. Berberine
2. Isomer of berberine

Lonicerae Japonicae Flos



Column: **ChromCore Phenyl-Ether**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: A) 0.5% acetic acid in H_2O
B) MeCN

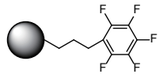
Gradient:	t (min)	%A	%B
	0	90	10
	15	80	20
	30	80	20
	40	70	30

Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 10 µL
Detection: UV 350 nm
Peak: 1. Luteoloside

Ordering Information

Product Name	Particle Size (µm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore Phenyl-Ether	5	250	A411-050012-04625S	A411-050012-03025S	A411-050012-02125S
		150	A411-050012-04615S	A411-050012-03015S	A411-050012-02115S
		100	A411-050012-04610S	A411-050012-03010S	A411-050012-02110S
		50	A411-050012-04605S	A411-050012-03005S	A411-050012-02105S

ChromCore™ PFP Columns



ChromCore PFP columns are based on pentafluorobenzene (PFP) modified silica particles with exhaustive end-capping. They are designed for a broad range of applications that require selectivity different from ChromCore Phenyl for aromatic analytes, such as halogenated aromatic compounds and Vitamin E isomers.

Main Features

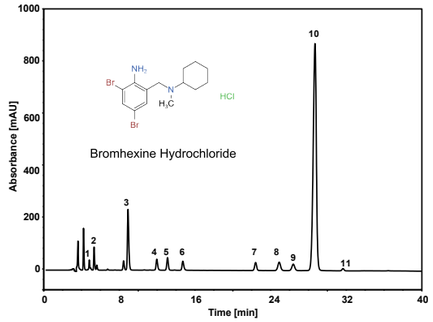
- Unique selectivity for polar aromatic and heterocyclic compounds based on shape, hydrophobic, π-π interaction, dipole-dipole interaction and hydrogen bond interaction
- Selectivity complementary to other phenyl stationary phases
- Low column bleed, compatible with MS applications
- Good column-to-column consistency

Specifications

Product Name	ChromCore PFP
Functional Group	Pentafluorophenyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	1.8, 3 & 5 µm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	10%
End-capped	Yes
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm 12000 psi for 1.8 µm
Temperature Limit	60 ℃
pH Range	2-8
Aqueous Compatibility	95% aqueous

Applications

Bromhexine and Related Substances



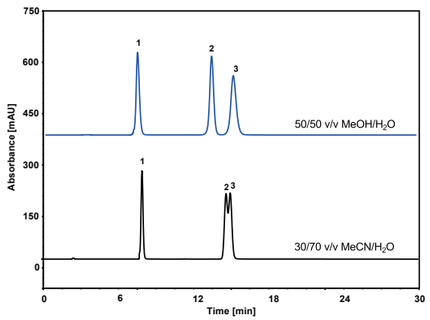
Column: **ChromCore PFP**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: A) MeCN
B) 0.5% acetic acid in H_2O, pH5.0 adjusted by triethylamine

Gradient:	t (min)	%A	%B
	0	35	65
	5	35	65
	35	55	45
	40	55	45
	40.1	35	65
	50	35	65

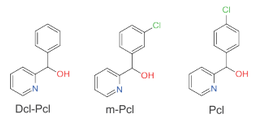
Flow Rate: 1.0 mL/min
Temperature: 40 ℃
Injection: 10 µL
Detection: UV 248 nm
Peaks: 1~9. Impurities
10. Bromhexine
11. Impurity

HPLC Columns

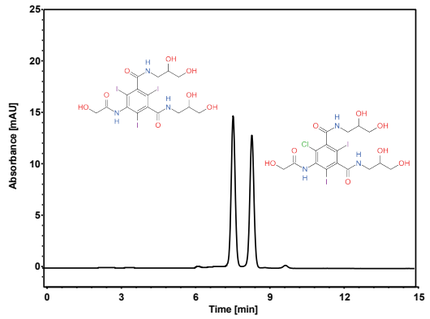
Pharmaceutical Intermediate



Column: **ChromCore PFP**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: As shown in the chromatogram
Flow Rate: 1.0 mL/min
Temperature: 35 ℃
Injection: 10 µL
Detection: UV 220 nm
Peaks: 1. Dcl-Pcl
2. m-Pcl
3. Pcl

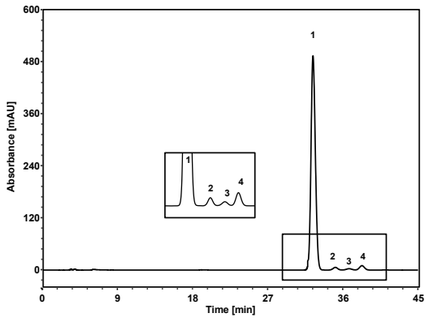


Ioversols

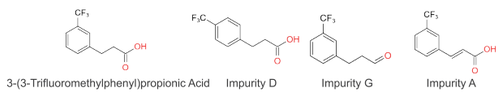


Column: **ChromCore PFP**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 3/97 v/v MeOH/0.05% phosphoric acid in H_2O
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 10 µL
Detection: UV 240 nm
Sample: Mixture of Iodofluorohydrins

3-(3-Trifluoromethylphenyl)propionic Acid



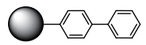
Column: **ChromCore PFP**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 50/50 v/v MeOH/0.1% phosphoric acid in H_2O
Flow Rate: 1.0 mL/min
Temperature: 40 ℃
Injection: 10 µL
Detection: UV 210 nm
Peaks: 1. 3-(3-Trifluoromethylphenyl)propionic Acid
2. Impurity D
3. Impurity G
4. Impurity A



Ordering Information

Product Name	Particle Size (µm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore PFP	5	250	A043-050012-04625S	A043-050012-03025S	A043-050012-02125S
		150	A043-050012-04615S	A043-050012-03015S	A043-050012-02115S
		100	A043-050012-04610S	A043-050012-03010S	A043-050012-02110S
		50	A043-050012-04605S	A043-050012-03005S	A043-050012-02105S
	3	150	A043-030012-04615S	A043-030012-03015S	A043-030012-02115S
		100	A043-030012-04610S	A043-030012-03010S	A043-030012-02110S
		50	A043-030012-04605S	A043-030012-03005S	A043-030012-02105S
		30	A043-030012-04603S	A043-030012-03003S	A043-030012-02103S
	1.8	150	A043-018012-04615S	A043-018012-03015S	A043-018012-02115S
		100	A043-018012-04610S	A043-018012-03010S	A043-018012-02110S
		50	A043-018012-04605S	A043-018012-03005S	A043-018012-02105S
		30	A043-018012-04603S	A043-018012-03003S	A043-018012-02103S

ChromCore™ Biphenyl Columns



ChromCore Biphenyl columns are based on high surface coverage biphenyl modified silica particles with exhaustive end-capping. They are designed for applications that require different selectivity towards aromatic analytes compared to ChromCore Phenyl and ChromCore PFP columns.

Main Features

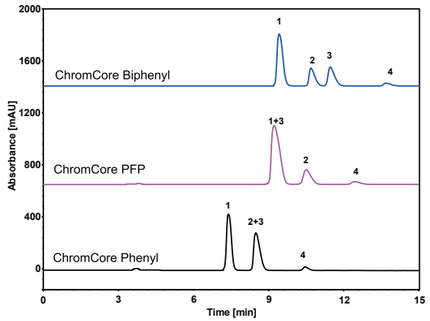
- Unique selectivity for aromatic and heterocyclic compounds based on hydrophobic and π-π interactions
- Selectivity complementary to other aromatic stationary phases
- Low column bleed, compatible with MS applications
- Good column-to-column consistency

Specifications

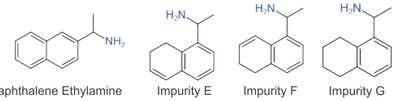
Product Name	ChromCore Biphenyl
Functional Group	Biphenyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	1.8, 3 & 5 µm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	12%
End-capped	Yes
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm 12000 psi for 1.8 µm
Temperature Limit	60 ℃
pH Range	2-9
Aqueous Compatibility	95% aqueous

Applications

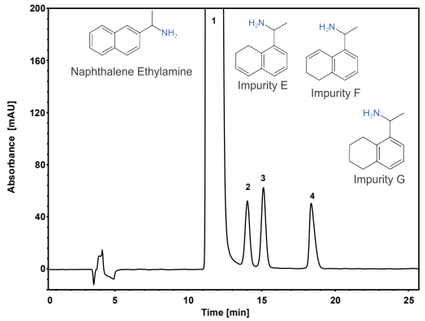
Naphthalene Ethylamine (Selectivity Comparison)



Columns: **ChromCore Biphenyl**, 5 μm
ChromCore PFP, 5 μm
ChromCore Phenyl, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 50/50 v/v MeOH/30 mM ammonium acetate buffer, pH5.8
Flow Rate: 1.0 mL/min
Temperature: 40 ℃
Injection: 10 μL
Detection: UV 223 nm
Peaks: 1. Naphthalene Ethylamine (0.25 mg/mL)
2. Impurity E (0.1 mg/mL)
3. Impurity F (0.1 mg/mL)
4. Impurity G (0.01 mg/mL)

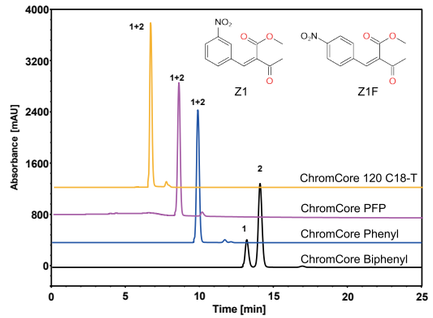


Naphthalene Ethylamine



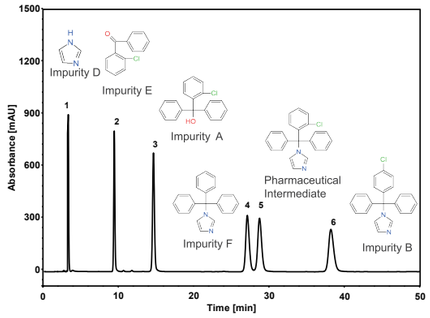
Column: **ChromCore Biphenyl**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 45/55 v/v MeOH/30 mM ammonium acetate buffer, pH5.8
Flow Rate: 1.0 mL/min
Temperature: 40 ℃
Injection: 10 μL
Detection: UV 223 nm
Peaks: 1. Naphthalene Ethylamine (2 mg/mL)
2. Impurity E (20 μg/mL)
3. Impurity F (20 μg/mL)
4. Impurity G (20 μg/mL)

Pharmaceutical Intermediate (Selectivity Comparison)



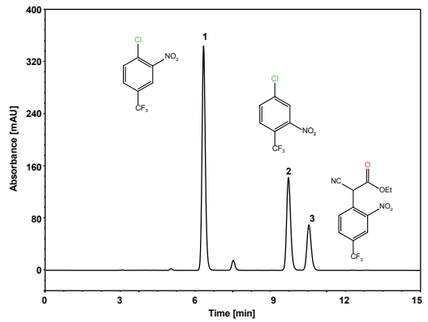
Columns: **ChromCore 120 C18-T**, 5 μm
ChromCore PFP, 5 μm
ChromCore Phenyl, 5 μm
ChromCore Biphenyl, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 65/35 v/v MeOH/H_2O
Flow Rate: 1.0 mL/min
Temperature: 35 ℃
Injection: 5 μL
Detection: UV 265 nm
Peaks: 1. Z1F
2. Z1

Pharmaceutical Intermediates



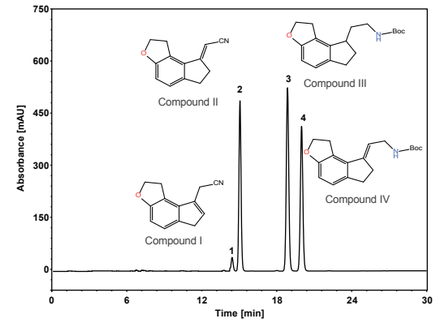
Column: **ChromCore Biphenyl**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 75/25 v/v MeOH/25 mM ammonium phosphate solution, pH6.5
Flow Rate: 1.0 mL/min
Temperature: 40 ℃
Injection: 10 μL
Detection: UV 215 nm
Sample: Standard Mix (0.05 mg/mL dissolved in 70% MeOH)
Peaks: 1. Impurity D 2. Impurity E 3. Impurity A
4. Impurity F 5. Pharmaceutical Intermediate 6. Impurity B

Pharmaceutical Intermediates



Column: **ChromCore Biphenyl**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 70/30 v/v MeOH/20 mM CH_3COONH_4 buffer, pH4.0
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 5 μL
Detection: UV 254 nm
Sample: Standard Mix (0.33 mg/mL each)
Peaks: 1. ethyl 2-cyano-2-[2-nitro-4- (trifluoromethyl)phenyl]acetate
2. 1-chloro-2-nitro-4- (trifluoromethyl)benzene
3. 4-chloro-2-nitro-1- (trifluoromethyl)benzene

Pharmaceutical Intermediates



Column: **ChromCore Biphenyl**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: A) 20/80 v/v MeCN/20 mM KH_2PO_4 in H_2O, pH3.0
B) MeCN

Gradient:	t (min)	%A	%B
	0	70	30
	30	50	50
	30.1	70	30
	45	70	30

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 5 μL
Detection: UV 210 nm
Sample: Standard Mix
Peaks: 1. Compound I
2. Compound II (0.17 mg/mL)
3. Compound III (0.17 mg/mL)
4. Compound IV (0.17 mg/mL)

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore Biphenyl	5	250	A211-050012-04625S	A211-050012-03025S	A211-050012-02125S
		150	A211-050012-04615S	A211-050012-03015S	A211-050012-02115S
		100	A211-050012-04610S	A211-050012-03010S	A211-050012-02110S
		50	A211-050012-04605S	A211-050012-03005S	A211-050012-02105S
	3	150	A211-030012-04615S	A211-030012-03015S	A211-030012-02115S
		100	A211-030012-04610S	A211-030012-03010S	A211-030012-02110S
		50	A211-030012-04605S	A211-030012-03005S	A211-030012-02105S
		30	A211-030012-04603S	A211-030012-03003S	A211-030012-02103S
	1.8	150	A211-018012-04615S	A211-018012-03015S	A211-018012-02115S
		100	A211-018012-04610S	A211-018012-03010S	A211-018012-02110S
		50	A211-018012-04605S	A211-018012-03005S	A211-018012-02105S
		30	A211-018012-04603S	A211-018012-03003S	A211-018012-02103S

ChromCore 300 Å C18/C8/C4

ChromCore 300 Å reversed phase columns are based on monodispersed, wide-pore, high-purity, spherical silica particles modified with C18, C8 or C4 functionalities and exhaustive end-capping. They are designed for separating analytes of large size, such as ginsenosides, PEG derivatives, peptides and small proteins.

Main Features

- Innovative monodispersed particle technology for high column efficiency and high mechanical strength
- Advanced bonding chemistry for symmetrical peak shape of analytes
- Three different functional groups for a broad range of applications
- Good aqueous compatibility
- Good column-to-column consistency

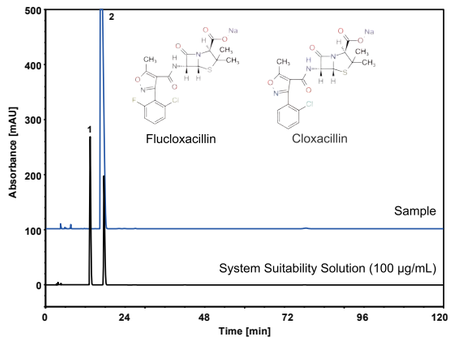
Specifications

Product Name	ChromCore 300 C18	ChromCore 300 C8	ChromCore 300 C4-T
Functional Group	Octadecyl	Octyl	Butyl
Substrate	Monodispersed, porous, spherical silica particles		
Particle Size	3 & 5 µm		
Pore Size	300 Å		
Surface Area	100 m^2/g		
Carbon Load	9.0%	4.5%	3.0%
End-capped	Yes		
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm		
Temperature Limit	60 ℃		
pH Range	2-10	2-10	2-9
Aqueous Compatibility	100% aqueous		

Applications

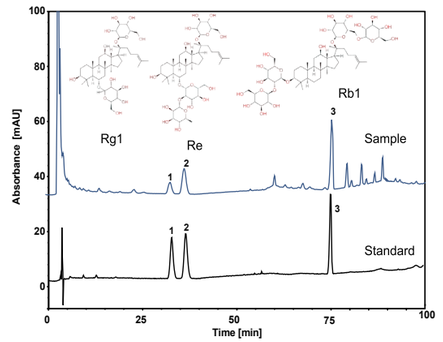
ChromCore 300 C18

Flucloxacillin



Column: **ChromCore 300 C18**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 25/75 v/v MeCN/20 mM phosphate buffer, pH5.0
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 20 µL
Detection: UV 225 nm
Peaks: 1. Cloxacillin
2. Flucloxacillin

Red Ginseng



Column: **ChromCore 300 C18**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: A) MeCN
B) H_2O

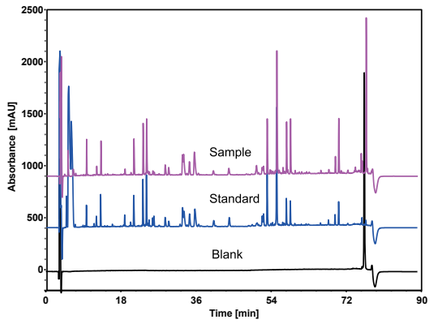
Gradient:	t (min)	%A	%B
	0	19	81
	35	19	81
	55	29	71
	70	29	71
	100	40	60

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 10 µL
Detection: UV 203 nm
Peaks: 1. Ginsenoside Rg1
2. Ginsenoside Re
3. Ginsenoside Rb1

HPLC Columns

ChromCore 300 C8

Peptide Mapping of rhGH

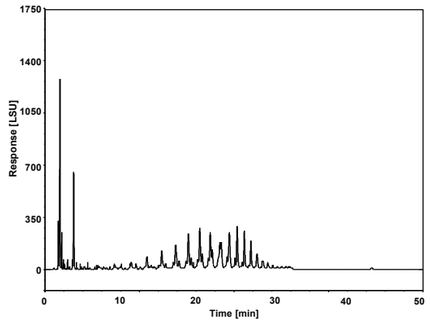


Column: **ChromCore 300 C8**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: A) 0.1% TFA in H_2O
B) 0.1% TFA in 90% MeCN/H_2O

Gradient:	t (min)	%A	%B
	0	100	0
	20	80	20
	45	75	25
	70	50	50
	75	20	80

Flow Rate: 1.0 mL/min
Temperature: 35 ℃
Injection: 100 µL
Detection: UV 214 nm

PEG Conjugates



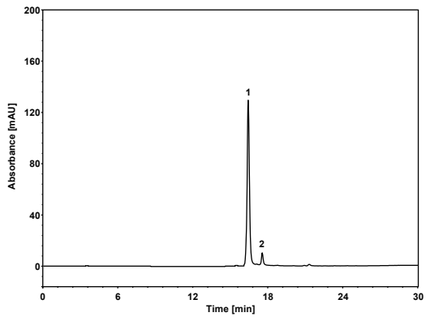
Column: **ChromCore 300 C8**, 3 µm
Dimension: 2.1×100 mm
Mobile Phase: A) 0.1% acetic acid in H_2O
B) MeCN

Gradient:	t (min)	%A	%B
	0	45	55
	30	0	100
	40	0	100
	40.1	45	55
	50	45	55

Flow Rate: 0.25 mL/min
Temperature: 40 ℃
Injection: 5 µL
Detection: ELSD (Evap: 70 ℃, Neb: 70 ℃, Gas: 1.6 SLM)

ChromCore 300 C4-T

RepA Protein

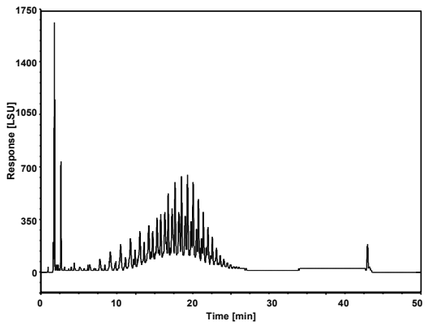


Column: **ChromCore 300 C4-T**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: A) 0.1% TFA in H_2O
B) 0.1% TFA in MeCN

Gradient:	t (min)	%A	%B
	0	90	10
	30	20	80
	31	90	10
	45	90	10

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 10 µL
Detection: UV 280 nm
Sample: RepA protein (2.4 mg/mL)

PEG Conjugates



Column: **ChromCore 300 C4-T**, 3 µm
Dimension: 2.1×100 mm
Mobile Phase: A) 0.1% acetic acid in H_2O
B) MeCN

Gradient:	t (min)	%A	%B
	0	45	55
	30	0	100
	40	0	100
	40.1	45	55
	50	45	55

Flow Rate: 0.25 mL/min
Temperature: 40 ℃
Injection: 5 µL
Detection: ELSD (Evap: 70 ℃, Neb: 70 ℃, Gas: 1.6 SLM)

Ordering Information

Product Name	Particle Size (µm)	Length (mm)	I.D.(mm) 4.6	3.0	2.1
ChromCore 300 C18	5	250	A001-050030-04625S	A001-050030-03025S	A001-050030-02125S
		150	A001-050030-04615S	A001-050030-03015S	A001-050030-02115S
		100	A001-050030-04610S	A001-050030-03010S	A001-050030-02110S
		50	A001-050030-04605S	A001-050030-03005S	A001-050030-02105S
	3	150	A001-030030-04615S	A001-030030-03015S	A001-030030-02115S
		100	A001-030030-04610S	A001-030030-03010S	A001-030030-02110S
		50	A001-030030-04605S	A001-030030-03005S	A001-030030-02105S
		30	A001-030030-04603S	A001-030030-03003S	A001-030030-02103S
ChromCore 300 C8	5	250	A007-050030-04625S	A007-050030-03025S	A007-050030-02125S
		150	A007-050030-04615S	A007-050030-03015S	A007-050030-02115S
		100	A007-050030-04610S	A007-050030-03010S	A007-050030-02110S
		50	A007-050030-04605S	A007-050030-03005S	A007-050030-02105S
	3	150	A007-030030-04615S	A007-030030-03015S	A007-030030-02115S
		100	A007-030030-04610S	A007-030030-03010S	A007-030030-02110S
		50	A007-030030-04605S	A007-030030-03005S	A007-030030-02105S
		30	A007-030030-04603S	A007-030030-03003S	A007-030030-02103S
ChromCore 300 C4-T	5	250	A226-050030-04625S	A226-050030-03025S	A226-050030-02125S
		150	A226-050030-04615S	A226-050030-03015S	A226-050030-02115S
		100	A226-050030-04610S	A226-050030-03010S	A226-050030-02110S
		50	A226-050030-04605S	A226-050030-03005S	A226-050030-02105S
	3	150	A226-030030-04615S	A226-030030-03015S	A226-030030-02115S
		100	A226-030030-04610S	A226-030030-03010S	A226-030030-02110S
		50	A226-030030-04605S	A226-030030-03005S	A226-030030-02105S
		30	A226-030030-04603S	A226-030030-03003S	A226-030030-02103S

ChromCore™ Silica Columns

ChromCore Silica columns are based on unmodified, monodispersed, high-purity, porous silica particles, and designed for separating highly hydrophobic compounds under normal phase conditions.

Main Features

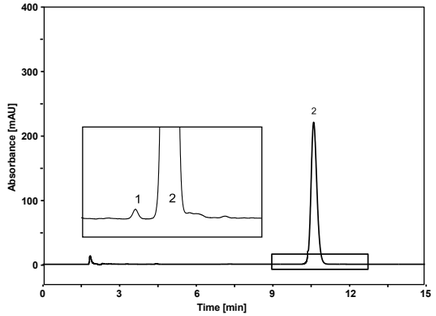
- Monodispersed, high-purity, porous, spherical silica particles for high column efficiency and mechanical strength
- Excellent chromatography performance for symmetrical peaks
- Good column-to-column consistency

Specifications

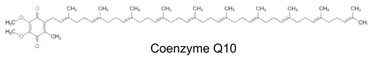
Product Name	ChromCore Silica
Functional Group	Silanol
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 & 5 µm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	0
End-capped	No
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm
Temperature Limit	60 ℃
pH Range	3-7
Aqueous Compatibility	100% aqueous

Applications

Coenzyme Q10 and Isomer



Column: **ChromCore Silica**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 97/3 v/v hexane/ethyl acetate
Flow Rate: 2.0 mL/min
Temperature: 30 ℃
Injection: 20 µL
Detection: UV 275 nm
Peaks: 1. Isomer of Coenzyme
2. Coenzyme Q10



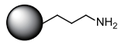
Coenzyme Q10

Ordering Information

Product Name	Particle Size (µm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore Silica	5	250	A003-050012-04625S	A003-050012-03025S	A003-050012-02125S
		150	A003-050012-04615S	A003-050012-03015S	A003-050012-02115S
	3	150	A003-030012-04615S	A003-030012-03015S	A003-030012-02115S
		100	A003-030012-04610S	A003-030012-03010S	A003-030012-02110S

HPLC Columns

ChromCore™ NH_2 Columns



ChromCore NH_2 columns are based on high surface coverage propylamino modified silica particles, and designed for separating polar and hydrophilic analytes, such as monosaccharides, oligosaccharides and sugar alcohols under HILIC conditions.

Main Features

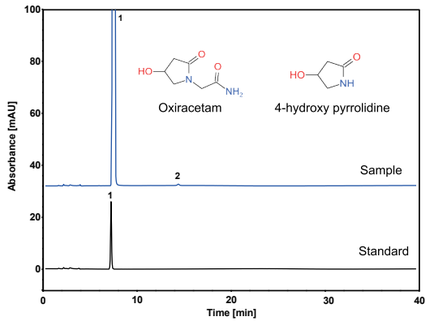
- Desired selectivity for separating fructose, glucose, sucrose, maltose and lactose
- Monodispersed, high-purity, porous, spherical silica particles for high column efficiency
- Good column-to-column consistency

Specifications

Product Name	ChromCore NH_2
Functional Group	Propylamine
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 & 5 µm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	4%
End-capped	No
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm
Temperature Limit	60 ℃
pH Range	2-8
Aqueous Compatibility	100% aqueous

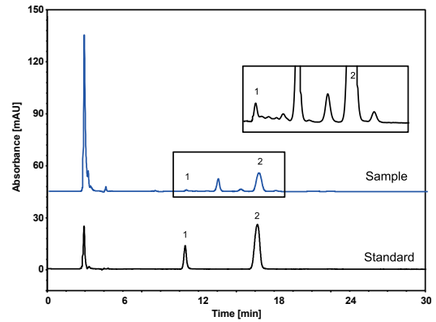
Applications

Oxiracetam

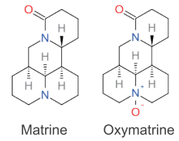


Column: **ChromCore NH_2**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 74/26 v/v MeCN/30 mM phosphate buffer, pH3.5
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 10 µL
Detection: UV 210 nm
Peaks: 1. Oxiracetam
2. 4-hydroxy Pyrrolidine

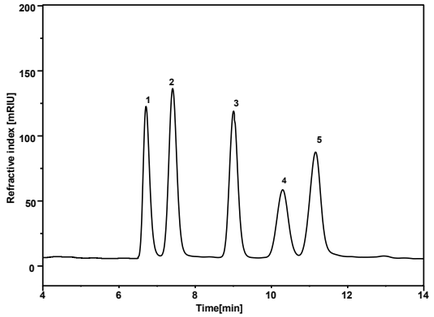
Sophora



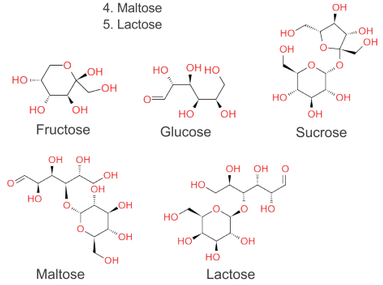
Column: **ChromCore NH_2**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 80/10/10 v/v/v MeCN/EtOH/3% H_3PO_4 in H_2O
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 5 µL
Detection: UV 220 nm
Peaks: 1. Matrine
2. Oxymatrine



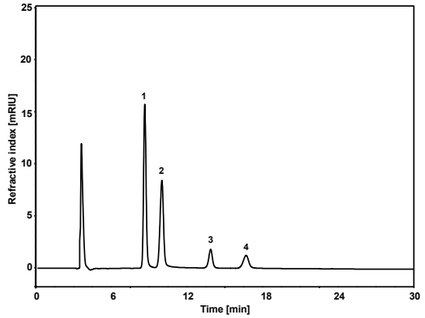
Sugars



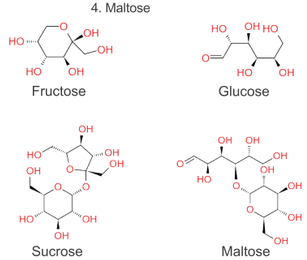
Column: **ChromCore NH_2**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 70/30 v/v MeCN/H_2O
Flow Rate: 1.0 mL/min
Temperature: 40 ℃
Injection: 20 µL
Detection: RID (40 ℃)
Peaks: 1. Fructose
2. Glucose
3. Sucrose
4. Maltose
5. Lactose



Honey



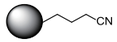
Column: **ChromCore NH_2**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 75/25 v/v MeCN/H_2O
Flow Rate: 1.0 mL/min
Temperature: 35 ℃
Injection: 15 µL
Detection: RID (35 ℃)
Peaks: 1. Fructose
2. Glucose
3. Sucrose
4. Maltose



Ordering Information

Product Name	Particle Size (μm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore NH_2	5	250	A008-050012-04625S	A008-050012-03025S	A008-050012-02125S
		150	A008-050012-04615S	A008-050012-03015S	A008-050012-02115S
	3	150	A008-030012-04615S	A008-030012-03015S	A008-030012-02115S
		100	A008-030012-04610S	A008-030012-03010S	A008-030012-02110S
		50	A008-030012-04605S	A008-030012-03005S	A008-030012-02105S

ChromCore™ CN Columns



ChromCore CN columns are based on high surface coverage cyano modified silica particles, and designed for separating polar analytes, such as penicillins and steroids.

Main Features

- Monodispersed, high-purity, porous, spherical silica particles for high column efficiency
- Suitable for separating hydrophobic, unsaturated and polar compounds
- Selectivity complementary to silica and NH_2 phases in normal phase/HILIC mode

Specifications

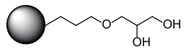
Product Name	ChromCore CN
Functional Group	Cyanopropyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 & 5 μm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	6%
End-capped	No
Pressure Limit	5000 psi for 5 μm 6000 psi for 3 μm
Temperature Limit	60 ℃
pH Range	2-8
Aqueous Compatibility	100% aqueous

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore CN	5	250	A010-050012-04625S	A010-050012-03025S	A010-050012-02125S
		150	A010-050012-04615S	A010-050012-03015S	A010-050012-02115S
	3	150	A010-030012-04615S	A010-030012-03015S	A010-030012-02115S
		100	A010-030012-04610S	A010-030012-03010S	A010-030012-02110S
		50	A010-030012-04605S	A010-030012-03005S	A010-030012-02105S

HPLC Columns

ChromCore™ HILIC-Diol Columns



ChromCore HILIC-Diol columns are based on proprietary diol modified monodispersed, high-purity, silica particles. They provide a neutral surface with intermediate polarity, suited for separating pesticides, herbicides, pharmaceutical metabolites, and polar natural products.

Main Features

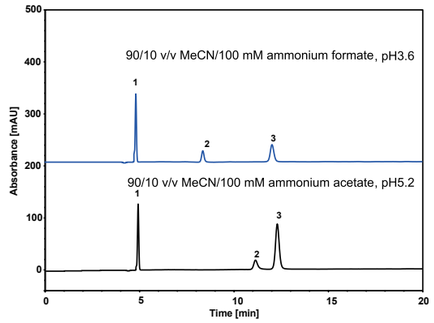
- Monodispersed, high-purity, porous, spherical silica particles for high column efficiency
- Suitable for separating compounds with intermediate to high polarity
- Suitable for both normal phase and HILIC modes
- Good column-to-column consistency

Specifications

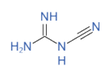
Product Name	ChromCore HILIC-Diol
Functional Group	Diol
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 & 5 µm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	10%
End-capped	No
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm
Temperature Limit	60 ℃
pH Range	2-8
Aqueous Compatibility	100% aqueous

Applications

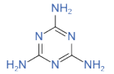
Metformin



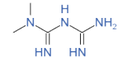
Column: **ChromCore HILIC-Diol**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: See chromatogram
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 5 µL
Detection: UV 218 nm
Peaks: 1. Dicyandiamide
2. Metformin
3. Melamine



Dicyandiamide



Metformin



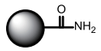
Melamine

Ordering Information

Product Name	Particle Size (µm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore HILIC-Diol	5	250	A020-050012-04625S	A020-050012-03025S	A020-050012-02125S
		150	A020-050012-04615S	A020-050012-03015S	A020-050012-02115S
		100	A020-050012-04610S	A020-050012-03010S	A020-050012-02110S
	3	150	A020-030012-04615S	A020-030012-03015S	A020-030012-02115S
		100	A020-030012-04610S	A020-030012-03010S	A020-030012-02110S
		50	A020-030012-04605S	A020-030012-03005S	A020-030012-02105S

HPLC Columns

ChromCore™ HILIC-Amide Columns



ChromCore HILIC-Amide columns are based on proprietary amido modified silica particles. They provide higher polarity than ChromCore HILIC-Diol columns, designed for separating polar compounds in a broad range of applications.

Main Features

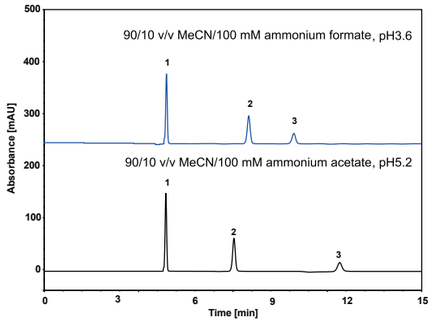
- Monodispersed, high-purity, porous silica particles for high column efficiency
- Unique selectivity for polar compounds
- Low column bleed, compatible with MS, CAD, and ELSD
- Good column-to-column consistency

Specifications

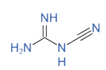
Product Name	ChromCore HILIC-Amide
Functional Group	Amide
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 & 5 µm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	7%
End-capped	No
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm
Temperature Limit	60 ℃
pH Range	2-8
Aqueous Compatibility	100% aqueous

Applications

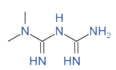
Metformin



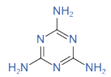
Column: **ChromCore HILIC-Amide**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: See chromatogram
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 5 µL
Detection: UV 218 nm
Peaks: 1. Dicyandiamide
2. Melamine
3. Metformin



Dicyandiamide

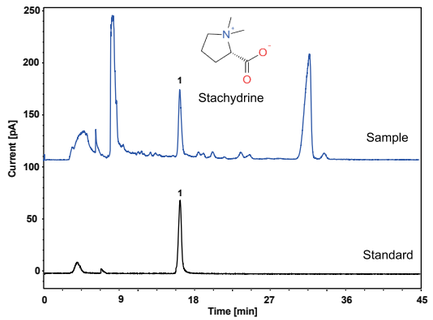


Melamine



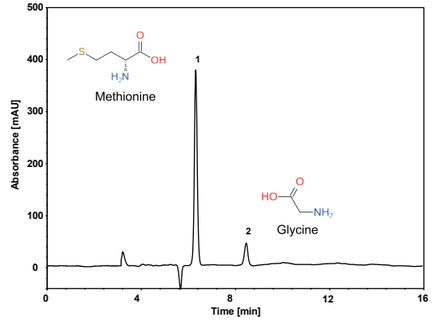
Metformin

Leonuri Herba



Column: **ChromCore HILIC-Amide**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 80/20 v/v MeCN/0.2% acetic acid in H_2O
Flow Rate: 0.5 mL/min
Temperature: 20 ℃
Injection: 10 µL
Detection: CAD
Peak: 1. Stachydrine

Glycine and Methionine

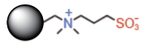


Column: **ChromCore HILIC-Amide**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase : 75/25 v/v MeCN/25 mM sodium dihydrogen phosphate in H_2O, pH5.5
Flow Rate: 1.0 mL/min
Temperature: 35 ℃
Injection: 10 µL
Detection: UV 210 nm
Sample: Glycine and Methionine
Peaks: 1. Methionine
2. Glycine

Ordering Information

Product Name	Particle Size (µm)	Length (mm)	I.D.(mm) 4.6	3.0	2.1
ChromCore HILIC Amide	5	250	A068-050012-04625S	A068-050012-03025S	A068-050012-02125S
		150	A068-050012-04615S	A068-050012-03015S	A068-050012-02115S
		100	A068-050012-04610S	A068-050012-03010S	A068-050012-02110S
	3	150	A068-030012-04615S	A068-030012-03015S	A068-030012-02115S
		100	A068-030012-04610S	A068-030012-03010S	A068-030012-02110S
		50	A068-030012-04605S	A068-030012-03005S	A068-030012-02105S

ChromCore™ HILIC-ZW Columns



ChromCore HILIC-ZW columns are based on innovative monodispersed particle technology and unique zwitterionic sulfobetaine column chemistry. They provide salt exchange property and high polarity, featuring a selectivity complementary to other HILIC columns for separating highly polar compounds in a broad range of applications.

Main Features

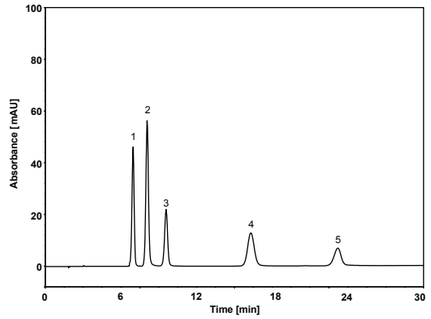
- Unique selectivity based on HILIC and salt-exchange mixed mode mechanism
- Monodispersed, high-purity, porous silica substrate for high column efficiency
- Low column bleed for MS applications
- Good column-to-column consistency

Specifications

Product Name	ChromCore HILIC-ZW
Functional Group	Sulfobetaine
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 & 5 µm
Pore Size	180 Å
Surface Area	200 m^2/g
Carbon Load	Proprietary
End-capped	No
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm
Temperature Limit	60 ℃
pH Range	2-8
Aqueous Compatibility	100% aqueous

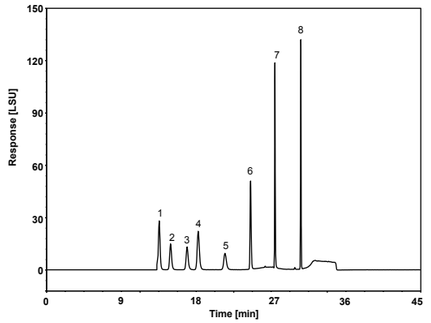
Applications

Five Nucleotides



Column: **ChromCore HILIC-ZW**, 5 µm
Dimension: 4.6×150 mm
Mobile Phase: 80/20 v/v MeCN/10 mM phosphate buffer, pH3.0
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 5 µL
Detection: UV 254 nm
Sample: Five nucleotides (0.1 mg/mL each)
Peaks: 1. UMP
2. AMP
3. IMP
4. GMP
5. CMP

Eight Essential Amino Acids

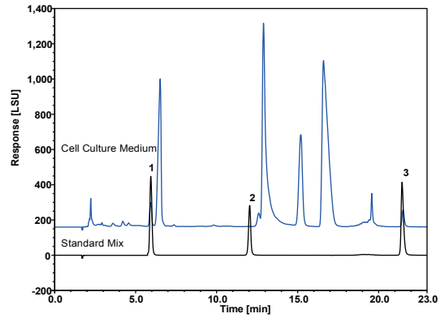


Column: **ChromCore HILIC-ZW**, 5 µm
Dimension: 4.6×150 mm
Mobile Phase: A) MeCN
B) 100 mM $HCOONH_4$ buffer, pH3.0
Gradient:

t (min)	%A	%B
0	90	10
20	90	10
30	50	50
33	50	50
33.1	90	10
45	90	10

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 2 µL
Detection: ELSD 1290 (Evap: 65 ℃, Neb: 55 ℃, Gas: 1.60 SLM)
Sample: 8 essential amino acids (0.5 mg/mL each)
Peaks: 1. Phenylalanine
2. Leucine
3. Isoleucine
4. Tryptophan
5. Methionine
6. Valine
7. Threonine
8. Lysine

Three Amino Acids in Cell Culture Medium

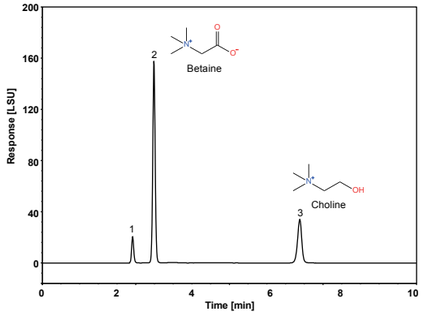


Column: **ChromCore HILIC-ZW**, 3 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM $HCOONH_4$, pH3.0
B) MeCN
Gradient:

t (min)	%A	%B
0	20	80
1.0	20	80
15	30	70
16	50	50
23	50	50

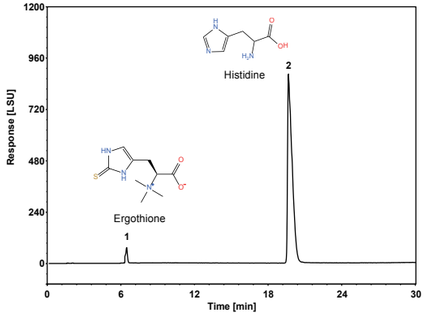
Flow Rate: 0.8 mL/min
Temperature: 30 ℃
Injection: 5 µL
Detection: ELSD (Evap: 65 ℃, Neb: 55 ℃, Gas: 1.6 SLM)
Sample: Cell culture medium (diluted with 80% MeCN-H_2O (v/v) by 1:1)
Peaks: 1. Methionine (0.746 mg/mL)
2. Serine (0.525 mg/mL)
3. Histidine (0.776 mg/mL)

Betaine and Choline



Column: **ChromCore HILIC-ZW**, 5 µm
Dimension: 4.6×150 mm
Mobile Phase: 70/25/5 v/v/v MeCN/H_2O/100 mM $HCOONH_4$ buffer, pH4.5
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 5 µL
Detection: ELSD (Evap: 65 ℃, Neb: 55 ℃, Gas: 1.60 SLM)
Sample: Standard mix (0.05 mg/mL each)
Peaks: 1. Cl^-
2. Betaine
3. Choline

Ergothione and Histidine

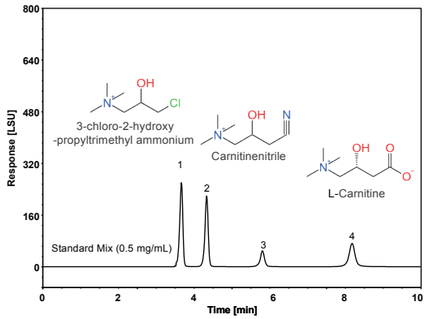


Column: **ChromCore HILIC-ZW**, 5 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 10 mM $HCOONH_4$, pH3.0
B) MeCN
Gradient:

t (min)	%A	%B
0	20	80
30	70	30
31	20	80
45	20	80

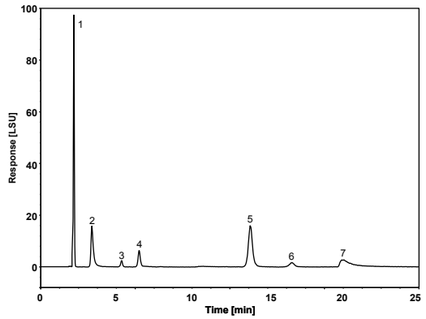
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 10 µL
Detection: ELSD (Evap: 65 ℃, Neb: 55 ℃,Gas: 1.60 SLM)
Sample: Standard mix
Peaks: 1. Ergothione (10 µg/mL)
2. Histidine (0.5 mg/mL)

L-Carnitine



Column: **ChromCore HILIC-ZW**, 5 µm
Dimension: 3.0×150 mm
Mobile Phase: 80/20 v/v MeCN/50 mM CH_3COONH_4 buffer, pH5.2
Flow Rate: 0.425 mL/min
Temperature: 30 ℃
Injection: 1 µL
Detection: ELSD (Evap: 65 ℃, Neb: 55 ℃,Gas: 1.60 SLM)
Samples: As shown in the chromatogram
Diluter: 50/50 v/v MeCN/H_2O
Peaks: 1. 3-chloro-2-hydroxypropyltrimethyl ammonium
2. Carnitinenitrile
3. Cl^-
4. L-Carnitine

Sulbactam Sodium



Column: **ChromCore HILIC-ZW**, 5 µm
Dimension: 4.6×150 mm
Mobile Phase: 80/10/10 v/v/v MeCN/H_2O/100 mM CH_3COONH_4 buffer, pH5.2
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 5 µL
Detection: ELSD (Evap: 65 ℃, Neb: 55 ℃,Gas: 1.60 SLM)
Sample: Sulbactam sodium (0.4 mg/mL)
Peaks: 1. Sulbactam
2. 6-aminopenicillanic acid
3. Cl^-
4. 2-amino-3-methyl-3-sulfinylbutyric acid
5. K^+
6. Na^+
7. PO_4^{3-}

Ordering Information

Product Name	Particle Size (µm)	Length (mm)	I.D. (mm)		
			4.6	3.0	2.1
ChromCore HILIC-ZW	5	250	A114-050018-04625S	A114-050018-03025S	A114-050018-02125S
		150	A114-050018-04615S	A114-050018-03015S	A114-050018-02115S
		100	A114-050018-04610S	A114-050018-03010S	A114-050018-02110S
		50	A114-050018-04605S	A114-050018-03005S	A114-050018-02105S
	3	250	A114-030018-04625S	A114-030018-03025S	A114-030018-02125S
		150	A114-030018-04615S	A114-030018-03015S	A114-030018-02115S
		100	A114-030018-04610S	A114-030018-03010S	A114-030018-02110S
		50	A114-030018-04605S	A114-030018-03005S	A114-030018-02105S

ChromCore™ HILIC-Imidazole Columns

ChromCore HILIC-Imidazole columns are based on proprietary polar imidazole modified silica particles. With a polar and N-containing ring structure, they provide weak anion exchange property with intermediate polarity, featuring a selectivity complementary to other HILIC columns.

Main Features

- Monodispersed, high-purity, porous silica particles for high column efficiency
- Unique selectivity based on HILIC and ion exchange mixed mode property
- Suited for separating polar and anionic analytes
- Good column-to-column consistency

Specifications

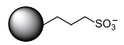
Product Name	ChromCore HILIC-Imidazole
Functional Group	Proprietary imidazole
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 & 5 µm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	5%
End-capped	No
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm
Temperature Limit	60 ℃
pH Range	2-8
Aqueous Compatibility	100% aqueous

HPLC Columns

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore HILIC-Imidazole	5	250	A208-050012-04625S	A208-050012-03025S	A208-050012-02125S
		150	A208-050012-04615S	A208-050012-03015S	A208-050012-02115S
		100	A208-050012-04610S	A208-050012-03010S	A208-050012-02110S
	3	150	A208-030012-04615S	A208-030012-03015S	A208-030012-02115S
		100	A208-030012-04610S	A208-030012-03010S	A208-030012-02110S
		50	A208-030012-04605S	A208-030012-03005S	A208-030012-02105S

ChromCore™ SCX Columns



ChromCore SCX columns are based on sulfonate modified silica particles. These columns feature a strong cation exchange property and are suitable for cationic analytes.

Main Features

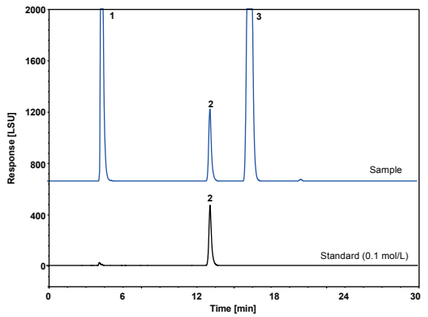
- Monodispersed, high-purity, porous silica particles for high column efficiency
- Suited for separating cationic analytes
- Good column-to-column consistency

Specifications

Product Name	ChromCore SCX	ChromCore 300 SCX
Functional Group	Propanesulfonic	
Substrate	Monodispersed, porous, spherical silica particles	
Particle Size	3 & 5 μm	
Pore Size	120 Å	300 Å
Surface Area	300 m^2/g	100 m^2/g
End-capped	No	
Pressure Limit	5000 psi for 5 μm 6000 psi for 3 μm	
Temperature Limit	60 ℃	
pH Range	2-8	

Applications

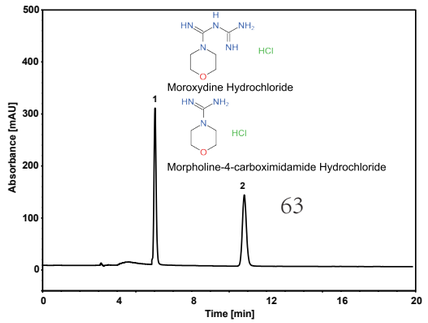
Tris Salt



Column: **ChromCore SCX**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 100 mM CH_3COONH_4 solution
Flow Rate: 0.6 mL/min
Temperature: 25 ℃
Injection: 100 μL
Detection: ELSD (Evap: 65 ℃, Neb: 55 ℃, Gas: 1.5 SLM)
Sample: Tris
Peaks: 1. Cl^-
2. $Tris^+$
3. Na^+

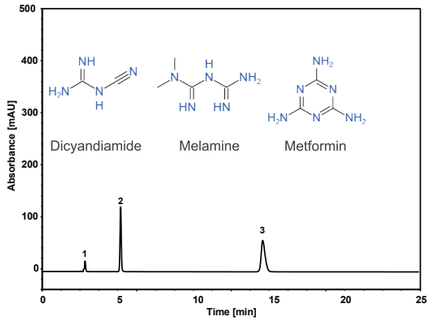
HPLC Columns

Moroxydine Hydrochloride



Column: **ChromCore 300 SCX**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 10/90 v/v MeCN/150 mM ammonium phosphate buffer, pH2.5
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 2 μL
Detection: UV 198 nm
Peaks: 1. Morpholine-4-carboximidamide
2. Moroxydine

Metformin

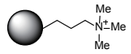


Column: **ChromCore 300 SCX**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 95/5 v/v 17 g/L $NH_4H_2PO_4$, pH3.0/MeCN
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 5 μL
Detection: UV 218 nm
Peaks: 1. Dicyandiamide
2. Melamine
3. Metformin

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore SCX	5	250	A052-050012-04625S	A052-050012-03025S	A052-050012-02125S
		150	A052-050012-04615S	A052-050012-03015S	A052-050012-02115S
		100	A052-050012-04610S	A052-050012-03010S	A052-050012-02110S
	3	150	A052-030012-04615S	A052-030012-03015S	A052-030012-02115S
		100	A052-030012-04610S	A052-030012-03010S	A052-030012-02110S
		50	A052-030012-04605S	A052-030012-03005S	A052-030012-02105S
ChromCore 300 SCX	5	250	A052-050030-04625S	A052-050030-03025S	A052-050030-02125S
		150	A052-050030-04615S	A052-050030-03015S	A052-050030-02115S
		100	A052-050030-04610S	A052-050030-03010S	A052-050030-02110S
	3	150	A052-030030-04615S	A052-030030-03015S	A052-030030-02115S
		100	A052-030030-04610S	A052-030030-03010S	A052-030030-02110S
		50	A052-030030-04605S	A052-030030-03005S	A052-030030-02105S

ChromCore™ SAX Columns



ChromCore SAX columns are based on quaternary ammonium modified silica particles. These columns feature a strong anion exchange property, and are suitable for separating anionic analytes.

Main Features

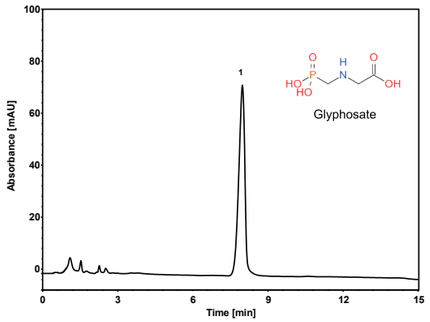
- Monodispersed, high-purity, porous silica particles for high column efficiency
- Suited for separating anionic analytes
- Good column-to-column consistency

Specifications

Product Name	ChromCore SAX	ChromCore 300 SAX
Functional Group	Quaternary ammonium	
Substrate	Monodispersed, porous, spherical silica particles	
Particle Size	3 & 5 μm	
Pore Size	120 Å	300 Å
Surface Area	300 m^2/g	100 m^2/g
End-capped	No	
Pressure Limit	5000 psi for 5 μm 6000 psi for 3 μm	
Temperature Limit	60 ℃	
pH Range	2-8	

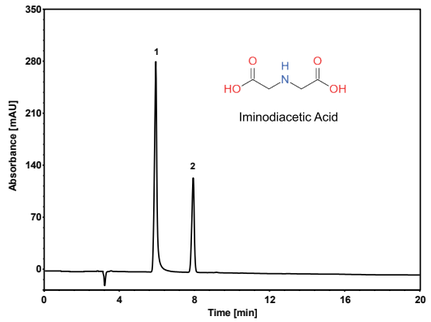
Applications

Glyphosate



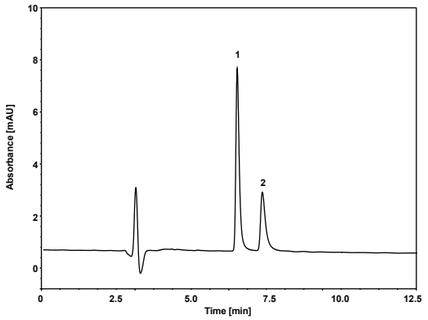
Column: **ChromCore SAX**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 3/97 v/v MeOH/2 mM potassium phosphate buffer, pH1.9
Flow Rate: 1.5 mL/min
Temperature: 30 ℃
Injection: 10 μL
Detection: UV 195 nm
Peak: 1. Glyphosate (2 mg/mL)

Iminodiacetic Acid



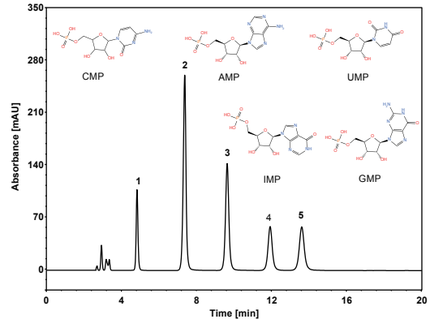
Column: **ChromCore SAX**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 30 mM potassium phosphate buffer, pH6.0
Flow Rate: 1.0 mL/min
Temperature: 27 ℃
Injection: 10 μL
Detection: UV 195 nm
Peaks: 1. Iminodiacetic acid
2. Cl^-

Nitrate and Nitrite



Column: **ChromCore SAX**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 30/70 v/v MeCN/0.1 M phosphate buffer
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 20 µL
Detection: UV 225 nm
Peaks: 1. Nitrate (1.5 µg/mL)
2. Nitrite (0.5 µg/mL)

Five Nucleotides



Column: **ChromCore SAX**, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 20/80 v/v MeOH/50 mM phosphate buffer, pH3.0
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 5 µL
Detection: UV 254 nm
Sample: Standard Mix
Peaks: 1. CMP (100 µg/mL)
2. AMP (100 µg/mL)
3. UMP (100 µg/mL)
4. IMP (50 µg/mL)
5. GMP (50 µg/mL)

Ordering Information

Product Name	Particle Size (µm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore SAX	5	250	A014-050012-04625S	A014-050012-03025S	A014-050012-02125S
		150	A014-050012-04615S	A014-050012-03015S	A014-050012-02115S
		100	A014-050012-04610S	A014-050012-03010S	A014-050012-02110S
	3	150	A014-030012-04615S	A014-030012-03015S	A014-030012-02115S
		100	A014-030012-04610S	A014-030012-03010S	A014-030012-02110S
		50	A014-030012-04605S	A014-030012-03005S	A014-030012-02105S
ChromCore 300 SAX	5	250	A014-050030-04625S	A014-050030-03025S	A014-050030-02125S
		150	A014-050030-04615S	A014-050030-03015S	A014-050030-02115S
		100	A014-050030-04610S	A014-050030-03010S	A014-050030-02110S
	3	150	A014-030030-04615S	A014-030030-03015S	A014-030030-02115S
		100	A014-030030-04610S	A014-030030-03010S	A014-030030-02110S
		50	A014-030030-04605S	A014-030030-03005S	A014-030030-02105S

Application-Specific Columns

ChromCore application-specific columns are designed to address separation challenges for specific applications. Each of these columns provides guaranteed separation for its targeted applications under prescribed chromatographic conditions.

ChromCore™ SAA

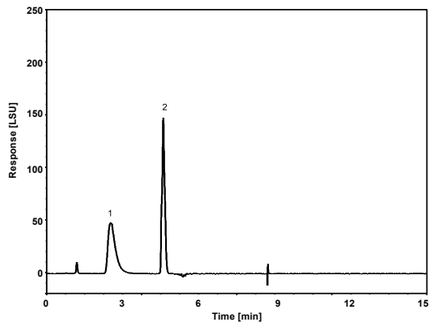
Designed for nonionic surfactant analysis in (bio)pharmaceutical, chemical industry and environmental samples.

Specifications

Product Name	ChromCore SAA
Functional Group	RP+AEX
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	5 µm
Pore Size	180 Å
Surface Area	200 m^2/g
Carbon Load	/
End-capped	No
Pressure Limit	5000 psi
Temperature Limit	60 ℃
pH Range	2-8
Aqueous Compatibility	100% aqueous

Applications

PF68 and Tween 80



Column: **ChromCore SAA**, 5 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 0.1% acetic acid in H_2O
B) 0.1% acetic acid in isopropanol

Gradient: t (min)	%A	%B
0	80	20
0.1	80	20
0.2	66	34
2.6	66	34
2.7	0	100
6.7	0	100
6.8	80	20
15	80	20

Flow Rate: 1.2 mL/min
Temperature: 25 ℃
Injection: 5 µL
Detection: ELSD (Evap: 65 ℃, Neb: 55 ℃, Gas: 1.6 SLM)
Peaks: 1. PF68
2. Tween 80

Ordering Information

Product Name	Particle Size (µm)	Length (mm)	I.D. (mm)
			4.6
ChromCore SAA	5	150	S014-050018-04615S
		100	S014-050018-04610S

ChromCore™ C18-P

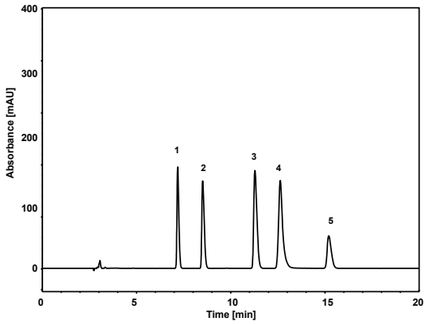
Designed for preservative analysis in foods and beverages.

Specifications

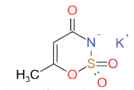
Product Name	ChromCore C18-P
Functional Group	Octadecyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	5 μm
Pore Size	180 Å
Surface Area	200 m^2/g
Carbon Load	13%
End-capped	Yes
Pressure Limit	5000 psi
Temperature Limit	60 ℃
pH Range	2-10
Aqueous Compatibility	95% aqueous

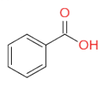
Applications

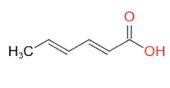
Five Common Preservatives

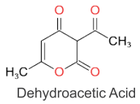


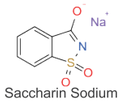
Column: **ChromCore C18-P**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 95/5 v/v 20 mM ammonium acetate in H_2O, pH6.9/MeOH
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 5 μL
Detection: UV 230 nm
Diluter: H_2O
Peaks:
1. Acesulfame
2. Benzoic Acid
3. Sorbic Acid
4. Dehydroacetic Acid
5. Saccharin


Acesulfame Potassium


Benzoic Acid


Sorbic Acid


Dehydroacetic Acid


Saccharin Sodium

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	I.D. (mm)
			4.6
ChromCore C18-P	5	250	S010-050018-04625S
		150	S010-050018-04615S

ChromCore™ PAH

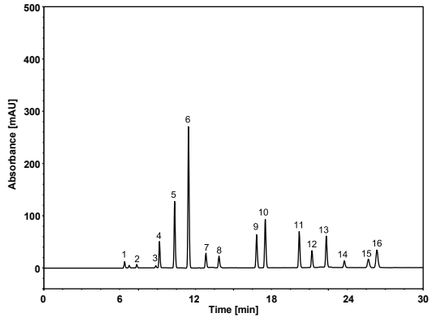
Designed for determination of 16 regulated polycyclic aromatic hydrocarbons.

Specifications

Product Name	ChromCore PAH
Functional Group	Aqueous Polymerized Octadecyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 & 5 μm
Pore Size	180 Å
Surface Area	200 m^2/g
Carbon Load	/
End-capped	No
Pressure Limit	5000 psi for 5 μm 6000 psi for 3 μm
Temperature Limit	60 ℃
pH Range	2-8
Aqueous Compatibility	95% aqueous

Applications

16 PAHs



Column: **ChromCore PAH**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: A) H_2O
B) MeCN

Gradient: t (min)	%A	%B
-10	40	60
0	40	60
2	40	60
20	0	100
30	0	100

Flow Rate: 1.5 mL/min
Temperature: 25 ℃
Injection: 5 μL
Detection: UV 254 nm
Peaks:
1. Naphthalene
2. Acenaphthylene
3. Acenaphthene
4. Fluorene
5. Phenanthrene
6. Anthracene
7. Fluoranthene
8. Pyrene
9. Benzo(a) anthracene
10. Chrysene
11. Benzo(b) fluoranthene
12. Benzo(k) fluoranthene
13. Benzo(a) pyrene
14. Dibenz(a,h) anthracene
15. Benzo(g,h,i) perylene
16. Indeno(1,2,3-cd) pyrene

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	I.D. (mm)
			4.6
ChromCore PAH	5	250	A118-050018-04625S
	3	150	A118-030018-04615S

ChromCore™ Ephedra

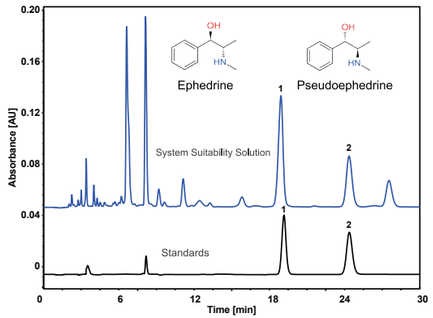
Designed for determination of ephedra in natural plants.

Specifications

Product Name	ChromCore Ephedra
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	5 μm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	12%
End-capped	Yes
Pressure Limit	5000 psi
Temperature Limit	60 ℃
pH Range	2-8
Aqueous Compatibility	95% aqueous

Applications

Ephedrine



Column: **ChromCore Ephedra**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 1.5/98.5 v/v MeOH/0.092% phosphoric acid in H_2O containing 0.04% triethylamine and 0.02% dibutylamine
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 10 μL
Detection: UV 210 nm
Peaks: 1. Ephedrine
2. Pseudoephedrine

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	I.D. (mm)
			4.6
ChromCore Ephedra	5	250	S011-050018-04625S

ChromCore™ Sugar-HILIC

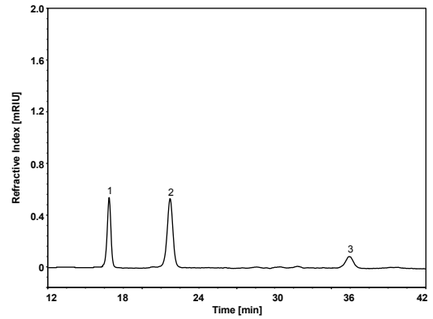
ChromCore Sugar-HILIC is a family of high-performance HILIC columns designed for separating sugars and related substances.

Specifications

Product Name	ChromCore Sugar-HILIC
Functional Group	Amide
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 μm
Pore Size	180 Å
Surface Area	200 m^2/g
Carbon Load	/
End-capped	No
Pressure Limit	6000 psi
Temperature Limit	60 ℃
pH Range	2-8
Aqueous Compatibility	100% aqueous

Applications

Lactoses



Column: **ChromCore Sugar-HILIC**, 3 μm
Dimension: 4.6×250 mm
Mobile Phase: 740/260/10 v/v/v MeCN/H_2O/TEA
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 1 μL
Detection: RID (40 ℃)
Peaks: 1. D-Lactose
2. 2'-Focusllactose
3. Difucosyllactose

Ordering Information

Product Name	Particle Size (μm)	I.D. (mm)	Length (mm)
			150
ChromCore Sugar-HILIC	3	4.6	S029-030018-04615S
		3.0	S029-030018-03015S
		2.1	S029-030018-02115S

HPLC Columns

ChromCore™ Sugar Columns

ChromCore Sugar columns are prepared from monodispersed spherical PS/DVB particles by a unique sulfonation process to generate H^+, Na^+, and Ca^{2+} forms. ChromCore Sugar-10H (H^+ form) is generally used to separate organic acids and sugars mainly based on ion exclusion and size exclusion mechanism. And ChromCore Sugar-10Na (Na^+) and ChromCore Sugar-10Ca (Ca^{2+}) are designed for separating sugars and sugar alcohols based on ligand exchange and size exclusion mechanism.

Main Features

- High cross-linking for higher flow rate and better resolution for low molecular weight compounds
- Good mechanical strength for longer column life
- Excellent chromatography performance for symmetrical peaks
- Good column-to-column consistency

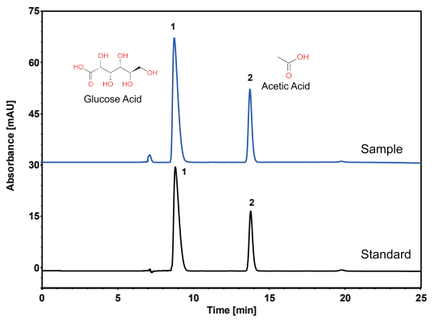
Specifications

Product Name	Sugar-10H	Sugar-10Ca	Sugar-10Na
Functional Group	$-SO_3H$	$-(SO_3)_2Ca$	$-SO_3Na$
Substrate	Monodispersed, spherical PS/DVB particles		
Particle Size	6 & 8 µm		
Cross-linking	10%		
Pressure Limit	1500 psi		
Temperature Limit	95 ℃		
Operating pH Range	1-3	5-9	5-9

Applications

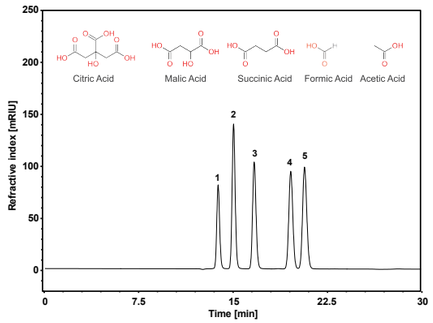
ChromCore Sugar-10H

Multiple Electrolytes Injection



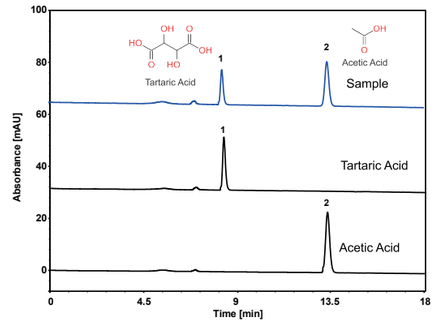
Column: **ChromCore Sugar-10H**, 6 µm
Dimension: 7.8×300 mm
Mobile Phase: 25 mM H_2SO_4 in H_2O
Flow Rate: 0.6 mL/min
Temperature: 60 ℃
Injection: 20 µL
Detection: UV 210 nm
Sample: Multiple Electrolytes Injection
Peaks: 1. Glucose Acid
2. Acetic Acid

Organic Acids



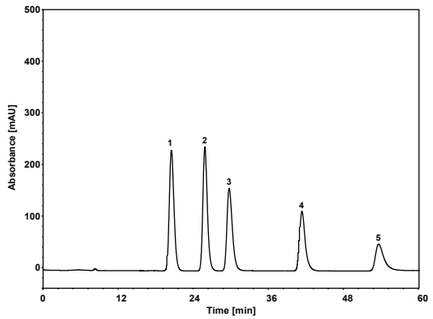
Column: **ChromCore Sugar-10H**, 6 µm
Dimension: 7.8×300 mm
Mobile Phase: 9 mM H_2SO_4 in H_2O
Flow Rate: 0.5 mL/min
Temperature: 65 ℃
Injection: 5 µL
Detection: RID
Peaks: 1. Citric Acid
2. Malic Acid
3. Succinic Acid
4. Formic Acid
5. Acetic Acid

Tartaric Acid and Acetic Acid

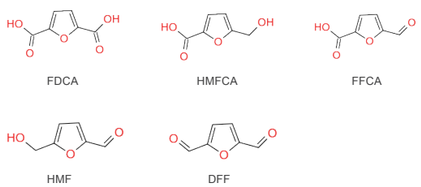


Column: **ChromCore Sugar-10H**, 6 µm
Dimension: 7.8×300 mm
Mobile Phase: 5 mM H_2SO_4 in H_2O
Flow Rate: 0.6 mL/min
Temperature: 80 ℃
Injection: 10 µL
Detection: UV 210 nm
Peaks: 1. Tartaric Acid
2. Acetic Acid

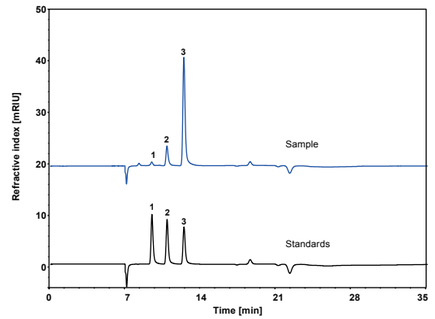
Furan Compounds



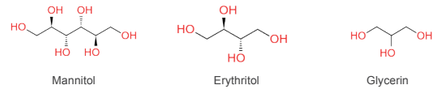
Column: **ChromCore Sugar-10H**, 6 µm
Dimension: 7.8×300 mm
Mobile Phase: 5 mM H_2SO_4 in H_2O
Flow Rate: 0.5 mL/min
Temperature: 30 ℃
Injection: 10 µL
Detection: UV 260 nm
Sample: Furans
Peaks: 1. FDCA
2. HMFCA
3. FFCA
4. HMF
5. DFF



Sugar Alcohols



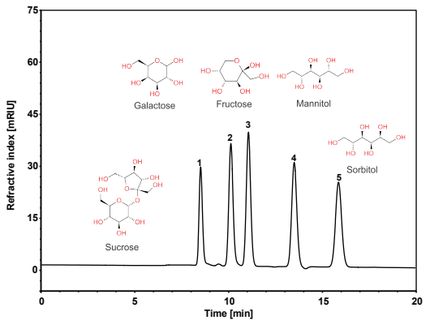
Column: **ChromCore Sugar-10H**, 6 µm
Dimension: 7.8×300 mm
Mobile Phase: 5 mM H_2SO_4 in H_2O
Flow Rate: 0.6 mL/min
Temperature: 35 ℃
Injection: 5 µL
Detection: RID (35 ℃)
Sample: Sugar Alcohols
Peaks: 1. Mannitol
2. Erythritol
3. Glycerin



HPLC Columns

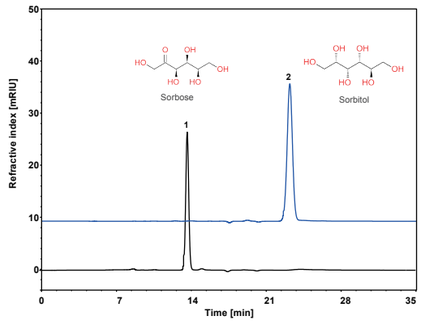
ChromCore Sugar-10Ca

Sugars



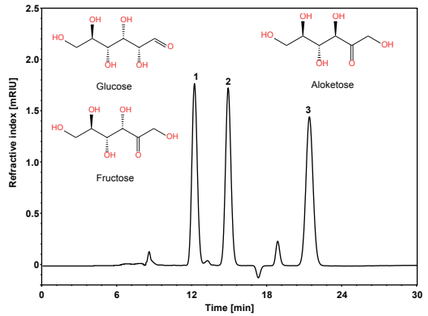
Column: **ChromCore Sugar-10Ca**, 6 µm
Dimension: 7.8×300 mm
Mobile Phase: H_2O
Flow Rate: 0.5 mL/min
Temperature: 80 ℃
Injection: 5 µL
Detection: RID (40 ℃)
Peaks: 1. Sucrose
2. Galactose
3. Fructose
4. Mannitol
5. Sorbitol

Sorbitol and Sorbose



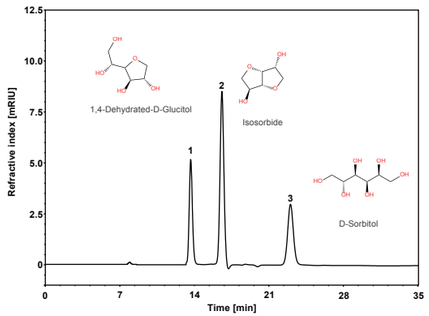
Column: **ChromCore Sugar-10Ca**, 6 µm
Dimension: 7.8×300 mm
Mobile Phase: H_2O
Flow Rate: 0.5 mL/min
Temperature: 80 ℃
Injection: 20 µL
Detection: RID (40 ℃)
Sample: Sorbitol and Sorbose (5 mg/mL each)
Peaks: 1. Sorbose
2. Sorbitol

Fructose, Glucose and Aloketose



Column: **ChromCore Sugar-10Ca**, 6 µm
Dimension: 7.8×300 mm
Mobile Phase: H_2O
Flow Rate: 0.5 mL/min
Temperature: 80 ℃
Injection: 10 µL
Detection: RID (40 ℃)
Peaks: 1. Glucose (0.33 mg/mL)
2. Fructose (0.33 mg/mL)
3. Aloketose (0.33 mg/mL)

Sugar Alcohols



Column: **ChromCore Sugar-10Ca**, 6 µm
Dimension: 7.8×300 mm
Mobile Phase: H_2O
Flow Rate: 0.5 mL/min
Temperature: 80 ℃
Injection: 20 µL
Detection: RID (40 ℃)
Peak: 1.1,4-Dehydrated-D-Glucitol (0.33 mg/mL)
2. Isosorbide (0.67 mg/mL)
3. D-Sorbitol (0.33 mg/mL)

Ordering Information

Product Name	Particle Size (µm)	I.D. x Length (mm)	
		7.8x300	4.6x250
ChromCore Sugar-10H	8	A017-080010-07830S	A017-080010-04625S
	6	A017-060010-07830S	A017-060010-04625S
ChromCore Sugar-10Ca	8	A019-080010-07830S	A019-080010-04625S
	6	A019-060010-07830S	A019-060010-04625S
ChromCore Sugar-10Na	8	A058-080010-07830S	A058-080010-04625S
	6	A058-060010-07830S	A058-060010-04625S

HPLC Columns

Guard Columns

NanoChrom provides a board range of guard columns/cartridges for analytical, semi-preparative and preparative columns for extended column lifetimes.

For analytical columns, a stand-alone guard column consists of a holder and a guard cartridge (see figure below).

Guard Holder

Product Name	Part Number
Guard Holder (Stand-alone)*	Guard-HPLC-A1

* compatible with 2.1x10 mm, 3.0x10 mm and 4.6x10 mm guard cartridges.

ChromCore Guard Cartridges

Product Name	Particle Size (µm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore 120 C18	5	10	A001-050012-04601S-B1	A001-050012-03001S-B1	A001-050012-02101S-B1
	3		A001-030012-04601S-B1	A001-030012-03001S-B1	A001-030012-02101S-B1
ChromCore AQ C18	5	10	A201-050018-04601S-B1	A201-050018-03001S-B1	A201-050018-02101S-B1
	3		A201-030018-04601S-B1	A201-030018-03001S-B1	A201-030018-02101S-B1
ChromCore AR C18	5	10	A401-050012-04601S-B1	A401-050012-03001S-B1	A401-050012-02101S-B1
	3		A401-030012-04601S-B1	A401-030012-03001S-B1	A401-030012-02101S-B1
ChromCore BR C18	5	10	A301-050018-04601S-B1	A301-050018-03001S-B1	A301-050018-02101S-B1
	3		A301-030018-04601S-B1	A301-030018-03001S-B1	A301-030018-02101S-B1
ChromCore T3	5	10	A711-050012-04601S-B1	A711-050012-03001S-B1	A711-050012-02101S-B1
ChromCore 120 C18-T	5	10	A501-050012-04601S-B1	A501-050012-03001S-B1	A501-050012-02101S-B1
	3		A501-030012-04601S-B1	A501-030012-03001S-B1	A501-030012-02101S-B1
ChromCore Polar C18	5	10	A060-050012-04601S-B1	A060-050012-03001S-B1	A060-050012-02101S-B1
	3		A060-030012-04601S-B1	A060-030012-03001S-B1	A060-030012-02101S-B1
ChromCore 120 C8	5	10	A007-050012-04601S-B1	A007-050012-03001S-B1	A007-050012-02101S-B1
	3		A007-030012-04601S-B1	A007-030012-03001S-B1	A007-030012-02101S-B1
ChromCore AQ C8	5	10	A207-050018-04601S-B1	A207-050018-03001S-B1	A207-050018-02101S-B1
	3		A207-030018-04601S-B1	A207-030018-03001S-B1	A207-030018-02101S-B1
ChromCore C30	5	10	A062-050018-04601S-B1	A062-050018-03001S-B1	A062-050018-02101S-B1
	3		A062-030018-04601S-B1	A062-030018-03001S-B1	A062-030018-02101S-B1
ChromCore 300 C18	5	10	A001-050030-04601S-B1	A001-050030-03001S-B1	A001-050030-02101S-B1
	3		A001-030030-04601S-B1	A001-030030-03001S-B1	A001-030030-02101S-B1
ChromCore 300 C8	5	10	A007-050030-04601S-B1	A007-050030-03001S-B1	A007-050030-02101S-B1
	3		A007-030030-04601S-B1	A007-030030-03001S-B1	A007-030030-02101S-B1
ChromCore 300 C4-T	5	10	A226-050030-04601S-B1	A226-050030-03001S-B1	A226-050030-02101S-B1
	3		A226-030030-04601S-B1	A226-030030-03001S-B1	A226-030030-02101S-B1

Product Name	Particle Size (µm)	Length (mm)	I.D.(mm)		
			4.6	3.0	2.1
ChromCore Phenyl	5	10	A011-050012-04601S-B1	A011-050012-03001S-B1	A011-050012-02101S-B1
	3		A011-030012-04601S-B1	A011-030012-03001S-B1	A011-030012-02101S-B1
ChromCore PFP	5	10	A043-050012-04601S-B1	A043-050012-03001S-B1	A043-050012-02101S-B1
	3		A043-030012-04601S-B1	A043-030012-03001S-B1	A043-030012-02101S-B1
ChromCore Biphenyl	5	10	A211-050012-04601S-B1	A211-050012-03001S-B1	A211-050012-02101S-B1
	3		A211-030012-04601S-B1	A211-030012-03001S-B1	A211-030012-02101S-B1
ChromCore NH_2	5	10	A008-050012-04601S-B1	A008-050012-03001S-B1	A008-050012-02101S-B1
	3		A008-030012-04601S-B1	A008-030012-03001S-B1	A008-030012-02101S-B1
ChromCore Silica	5	10	A003-050012-04601S-B1	A003-050012-03001S-B1	A003-050012-02101S-B1
	3		A003-030012-04601S-B1	A003-030012-03001S-B1	A003-030012-02101S-B1
ChromCore CN	5	10	A010-050012-04601S-B1	A010-050012-03001S-B1	A010-050012-02101S-B1
	3		A010-030012-04601S-B1	A010-030012-03001S-B1	A010-030012-02101S-B1
ChromCore HILIC-Amide	5	10	A068-050012-04601S-B1	A068-050012-03001S-B1	A068-050012-02101S-B1
	3		A068-030012-04601S-B1	A068-030012-03001S-B1	A068-030012-02101S-B1
ChromCore HILIC-Diol	5	10	A020-050012-04601S-B1	A020-050012-03001S-B1	A020-050012-02101S-B1
	3		A020-030012-04601S-B1	A020-030012-03001S-B1	A020-030012-02101S-B1
ChromCore HILIC-ZW	5	10	A114-050018-04601S-B1	A114-050018-03001S-B1	A114-050018-02101S-B1
	3		A114-030018-04601S-B1	A114-030018-03001S-B1	A114-030018-02101S-B1
ChromCore HILIC-Imidazole	5	10	A208-050012-04601S-B1	A208-050012-03001S-B1	A208-050012-02101S-B1
	3		A208-030012-04601S-B1	A208-030012-03001S-B1	A208-030012-02101S-B1
ChromCore SCX	5	10	A052-050012-04601S-B1	A052-050012-03001S-B1	A052-050012-02101S-B1
	3		A052-030012-04601S-B1	A052-030012-03001S-B1	A052-030012-02101S-B1
ChromCore 300 SCX	5	10	A052-050030-04601S-B1	A052-050030-03001S-B1	A052-050030-02101S-B1
	3		A052-030030-04601S-B1	A052-030030-03001S-B1	A052-030030-02101S-B1
ChromCore SAX	5	10	A014-050012-04601S-B1	A014-050012-03001S-B1	A014-050012-02101S-B1
	3		A014-030012-04601S-B1	A014-030012-03001S-B1	A014-030012-02101S-B1
ChromCore 300 SAX	5	10	A014-050030-04601S-B1	A014-050030-03001S-B1	A014-050030-02101S-B1
	3		A014-030030-04601S-B1	A014-030030-03001S-B1	A014-030030-02101S-B1

Guard Columns

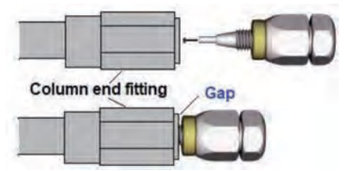
UHPLC In-line Filter

UHPLC in-line filter is designed for protecting (U)HPLC analytical columns.

Main Features

- Low dead volume to minimize column efficiency loss
- High pressure limit: (100 MPa) suitable for various UHPLC systems and columns in both Parker and Waters fittings
- Two replacement frits are available in 0.2 μm and 0.5 μm porosity

UHPLC In-line Filter and Frit



Connection with Column

Ordering Information

Product Name	Specification	Part Number
UHPLC In-line Filter Suite	0.2 μm frit, Parker female inlet/Parker male outlet	Holder-UIF-D1PP
UHPLC In-line Filter Suite	0.2 μm frit, Parker female inlet/Waters male outlet	Holder-UIF-D1PW
UHPLC In-line Filter Suite	0.2 μm frit, Waters female inlet/Waters male outlet	Holder-UIF-D1WW
UHPLC In-line Filter Suite	0.2 μm frit, Waters female inlet/Parker male outlet	Holder-UIF-D1WP
Replacement Frit	0.2 μm/0.5 μm	Filter-UIF02S/Filter-UIF05S

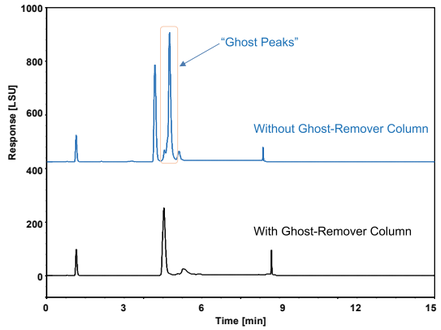
*Please make sure the connection type is compatible with the analytical column fittings.

Ghost-Remover Columns

In HPLC, it is not uncommon to observe “ghost peaks” especially when a gradient method is used. This can cause severe interference, and negatively impact the limit of detection. NanoChrom Ghost-Remover columns are designed to minimize such “ghost peaks” to improve sensitivity and the quality of data.

Main Features

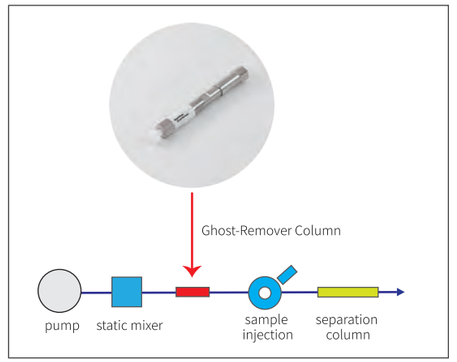
- High “ghost peak” removing ability
- Easy installation
- Various formats for both HPLC and UHPLC applications



Column: **ChromCore SAA**, 5 μm
Dimension: 4.6×150 mm
Mobile Phase: A) 0.1% acetic acid in H_2O
B) 0.1% acetic acid in isopropanol

Gradient:	t (min)	%A	%B
	0	80	20
	0.9	80	20
	1.0	66	34
	2.4	66	34
	2.5	0	100
	6.5	0	100
	6.6	80	20
	15	80	20

Flow Rate: 1.2 mL/min
Temperature: 25 ℃
Injection: 5 μL
Detection: ELSD (Evap: 65 ℃, Neb: 55 ℃, Gas: 1.6 SLM)
Sample: Tween 20



Installation

Ordering Information

Product Name	L x I.D.(mm)	Part Number
NanoChrom Ghost-Remover	50x4.6	GR4605S
	50x3.0	GR3005S
	50x2.1	GR2105S
	30x2.1	GR2103S
NanoChrom Ghost-Remover (UHPLC)	50x2.1	GR2105S-U

ChromCore™ UHPLC Columns

ChromCore UHPLC columns are based on sub-2 μm high-purity, monodispersed, spherical porous silica particles with precisely controlled particle size and pore structure, as well as high mechanical strength, providing high efficiency and consistency. They provide better separation, higher detection sensitivity and shorter analysis time.

Main Features

- Advanced monodispersed particle technology for high column efficiency
- Excellent chromatography performance
- Low column bleed and good MS compatibility
- Good column-to-column consistency

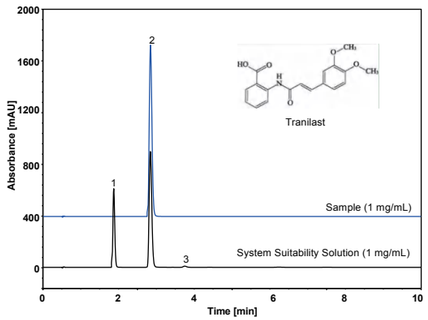
Specifications

Product Name	120 C18	AQ C18	AR C18	BR C18	120 C8	AQ C8
Functional Group	Octadecyl	Octadecyl	Sterically protected octadecyl	Octadecyl	Octyl	Octyl
Substrate	Monodispersed, porous, spherical silica particles			Surface organic-inorganic hybrid, monodispersed, porous, spherical silica particles	Monodispersed, porous, spherical silica particles	
Particle Size	1.8 μm	1.8 μm	1.8 μm	1.8 μm	1.8 μm	1.8 μm
Pore Size	120 Å	180 Å	120 Å	180 Å	120 Å	180 Å
Surface Area	300 m^2/g	200 m^2/g	300 m^2/g	200 m^2/g	300 m^2/g	200 m^2/g
Carbon Load	17%	13%	12%	12%	10%	7%
End-capped	Yes	Yes	No	Yes	Yes	Yes
Pressure Limit	12000 psi	12000 psi	12000 psi	12000 psi	12000 psi	12000 psi
Temperature Limit	60 ℃	60 ℃	60 ℃	60 ℃	60 ℃	60 ℃
pH Range	2-10	2-10	1-8	1.5-11	2-10	2-10
Aqueous Compatibility	95% aqueous	100% aqueous	100% aqueous	95% aqueous	95% aqueous	100% aqueous

Product Name	Phenyl	Phenyl-Hexyl	PFP	Biphenyl
Functional Group	Propylphenyl	Phenyl-Hexyl	Pentafluorophenyl	Biphenyl
Substrate	Monodispersed, porous, spherical silica particles			
Particle Size	1.8 μm	1.8 μm	1.8 μm	1.8 μm
Pore Size	120 Å	120 Å	120 Å	120 Å
Surface Area	300 m^2/g	300 m^2/g	300 m^2/g	300 m^2/g
Carbon Load	12%	14%	10%	12%
End-capped	Yes	Yes	Yes	Yes
Pressure Limit	12000 psi	12000 psi	12000 psi	12000 psi
Temperature Limit	60 ℃	60 ℃	60 ℃	60 ℃
pH Range	2-8	2-9	2-8	2-9
Aqueous Compatibility	95% aqueous	95% aqueous	95% aqueous	95% aqueous

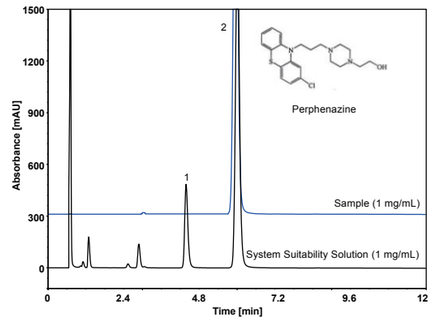
Applications

Tranilast (2020 ChP)



Column: **ChromCore 120 C18**, 1.8 μm
Dimension: 2.1×100 mm
Mobile Phase: 1/1/2 v/v/v MeOH/MeCN/0.02 M CH_3COONH_4, pH4.0
Flow Rate: 0.5 mL/min
Temperature: 30 ℃
Injection: 1 μL
Detection: UV 308 nm
Sample: Tranilast (1 mg/mL)
Peaks: 1. Impurity I
2. Tranilast
3. Impurity II

Perphenazine (2020 ChP)

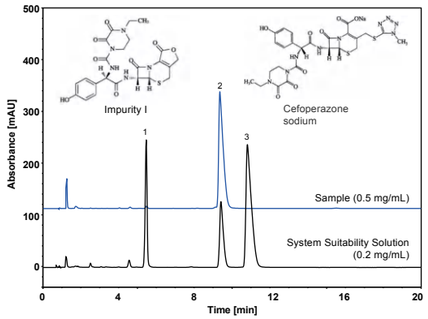


Column: **ChromCore AQ C18**, 1.8 μm
Dimension: 2.1×100 mm
Mobile Phase: A) MeOH
B) 0.03 M CH_3COONH_4 solution

Gradient:	t (min)	%A	%B
	0	67	33
	8.3	67	33
	10.4	90	10
	12.5	100	0
	15.6	67	33
	25	67	33

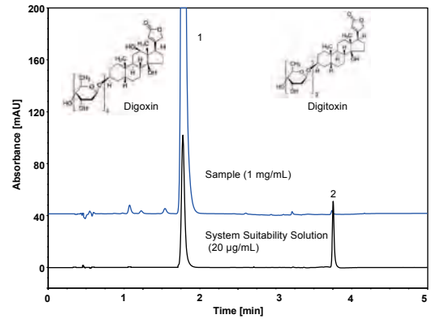
Flow Rate: 0.4 mL/min
Temperature: 30 ℃
Injection: 2 μL
Detection: UV 254 nm
Peaks: 1. Degradation product
2. Perphenazine

Cefoperazone (2020 ChP)



Column: **ChromCore BR C18**, 1.8 μm
Dimension: 2.1×100 mm
Mobile Phase: 880/120/1.2 v/v/v H_2O/MeCN/TEAA solution
Flow Rate: 0.5 mL/min
Temperature: 30 ℃
Injection: 2 μL
Detection: UV 254 nm
Peaks: 1. Impurity I
2. Cefoperazone
3. Isomer of Cefoperazone

Digoxin (2020 ChP)

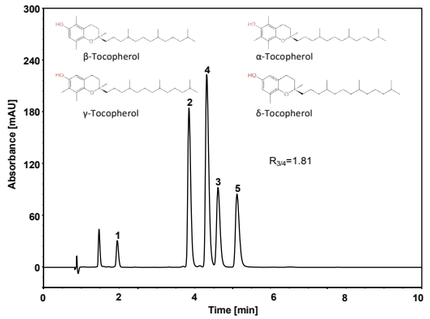


Column: **ChromCore BR C18**, 1.8 μm
Dimension: 2.1×100 mm
Mobile Phase: A) 10/90 v/v MeCN/H_2O
B) 60/40 v/v MeCN/H_2O

Gradient:	t (min)	%A	%B
	0	60	40
	0.8	60	40
	2.4	0	100
	2.5	60	40
	5	60	40

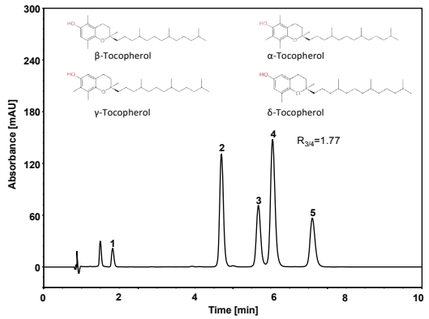
Flow Rate: 0.5 mL/min
Temperature: 25 ℃
Injection: 2 μL
Detection: UV 230 nm
Peaks: 1. Digoxin
2. Digitoxin

Four Tocopherols and Retinol



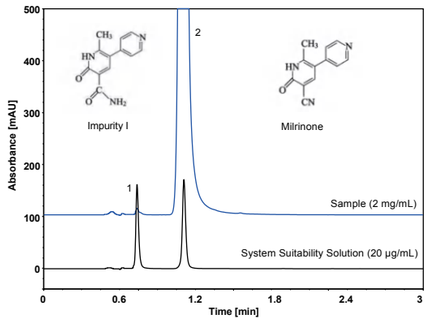
Column: **ChromCore Biphenyl**, 1.8 μm
Dimension: 2.1×100 mm
Mobile Phase: 90/10 v/v MeOH/H_2O
Flow Rate: 0.3 mL/min
Temperature: 40 ℃
Injection: 2 μL
Detection: UV 294 nm
Sample: Standard mix
Peaks: 1. Retinol (0.05 mg/mL)
2. δ-Tocopherol (0.2 mg/mL)
3. β-Tocopherol (0.1 mg/mL)
4. γ-Tocopherol (0.2 mg/mL)
5. α-Tocopherol (0.1 mg/mL)

Four Tocopherols and Retinol



Column: **ChromCore PFP**, 1.8 μm
Dimension: 2.1×100 mm
Mobile Phase: 87/13 v/v MeOH/H_2O
Flow Rate: 0.3 mL/min
Temperature: 40 ℃
Injection: 2 μL
Detection: UV 294 nm
Sample: Standard mix
Peaks: 1. Retinol (0.05 mg/mL)
2. δ-Tocopherol (0.2 mg/mL)
3. β-Tocopherol (0.1 mg/mL)
4. γ-Tocopherol (0.2 mg/mL)
5. α-Tocopherol (0.1 mg/mL)

Milrinone (2020 ChP)



Column: **ChromCore 120 C8**, 1.8 μm
Dimension: 2.1×100 mm
Mobile Phase: 20/80 v/v MeCN/phosphate buffer, pH7.5
Flow Rate: 0.5 mL/min
Temperature: 25 ℃
Injection: 2 μL
Detection: UV 220 nm
Peaks: 1. Impurity I
2. Milrinone

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	I.D. (mm)	
			3.0	2.1
ChromCore 120 C18	1.8	150	A001-018012-03015S	A001-018012-02115S
		100	A001-018012-03010S	A001-018012-02110S
		50	A001-018012-03005S	A001-018012-02105S
		30	A001-018012-03003S	A001-018012-02103S
ChromCore AQ C18	1.8	150	A201-018018-03015S	A201-018018-02115S
		100	A201-018018-03010S	A201-018018-02110S
		50	A201-018018-03005S	A201-018018-02105S
		30	A201-018018-03003S	A201-018018-02103S
ChromCore AR C18	1.8	150	A401-018012-03015S	A401-018012-02115S
		100	A401-018012-03010S	A401-018012-02110S
		50	A401-018012-03005S	A401-018012-02105S
		30	A401-018012-03003S	A401-018012-02103S
ChromCore BR C18	1.8	150	A301-018018-03015S	A301-018018-02115S
		100	A301-018018-03010S	A301-018018-02110S
		50	A301-018018-03005S	A301-018018-02105S
		30	A301-018018-03003S	A301-018018-02103S
ChromCore 120 C8	1.8	150	A007-018012-03015S	A007-018012-02115S
		100	A007-018012-03010S	A007-018012-02110S
		50	A007-018012-03005S	A007-018012-02105S
		30	A007-018012-03003S	A007-018012-02103S
ChromCore AQ C8	1.8	150	A207-018018-03015S	A207-018018-02115S
		100	A207-018018-03010S	A207-018018-02110S
		50	A207-018018-03005S	A207-018018-02105S
		30	A207-018018-03003S	A207-018018-02103S
ChromCore Phenyl	1.8	150	A011-018012-03015S	A011-018012-02115S
		100	A011-018012-03010S	A011-018012-02110S
		50	A011-018012-03005S	A011-018012-02105S
		30	A011-018012-03003S	A011-018012-02103S
ChromCore Phenyl-Hexyl	1.8	150	A311-018012-03015S	A311-018012-02115S
		100	A311-018012-03010S	A311-018012-02110S
		50	A311-018012-03005S	A311-018012-02105S
		30	A311-018012-03003S	A311-018012-02103S
ChromCore PFP	1.8	150	A043-018012-03015S	A043-018012-02115S
		100	A043-018012-03010S	A043-018012-02110S
		50	A043-018012-03005S	A043-018012-02105S
		30	A043-018012-03003S	A043-018012-02103S
ChromCore Biphenyl	1.8	150	A211-018012-03015S	A211-018012-02115S
		100	A211-018012-03010S	A211-018012-02110S
		50	A211-018012-03005S	A211-018012-02105S
		30	A211-018012-03003S	A211-018012-02103S

UHPLC Columns

Preparative Columns

NanoChrom provides a selection of semi-preparative columns and preparative columns. Various stationary phases are available for both small molecule and large biomolecule separations.

Main Features

- Advanced monodispersed particle technology for high efficiency and mechanical strength
- Various stationary phases are available for both small molecules and large biomolecules
- High sample load from milligram to gram level
- Easy scale-up for fast method development

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	I.D.(mm)	
			10	20
BioCore SEC-120	5	300	/	B213-050012-20030S
		250	/	B213-050012-20025S
BioCore SEC-150	5	300	/	B213-050015-20030S
		250	/	B213-050015-20025S
BioCore SEC-300	5	300	/	B213-050030-20030S
		250	/	B213-050030-20025S
BioCore SEC-500V	5	300	/	B213-050050-20030S-V
		250	/	B213-050050-20025S-V
BioCore WCX	10	250	B311-100000-10025S	B311-100000-20025S
		150	B311-100000-10015S	B311-100000-20015S
	5	250	B311-050000-10025S	B311-050000-20025S
		150	B311-050000-10015S	B311-050000-20015S
BioCore SCX	10	250	B411-100000-10025S	B411-100000-20025S
		150	B411-100000-10015S	B411-100000-20015S
	5	250	B411-050000-10025S	B411-050000-20025S
		150	B411-050000-10015S	B411-050000-20015S
BioCore WAX	10	250	A511-100000-10025S	A511-100000-20025S
		150	A511-100000-10015S	A511-100000-20015S
	5	250	A511-050000-10025S	A511-050000-20025S
		150	A511-050000-10015S	A511-050000-20015S
BioCore SAX	10	250	B611-100000-10025S	B611-100000-20025S
		150	B611-100000-10015S	B611-100000-20015S
	5	250	B611-050000-10025S	B611-050000-20025S
		150	B611-050000-10015S	B611-050000-20015S
BioCore HIC-Butyl	5	250	B713-050100-10025S	B713-050100-20025S
		150	B713-050100-10015S	B713-050100-20015S
BioCore HIC-Phenyl	5	250	B723-050100-10025S	B723-050100-20025S
		150	B723-050100-10015S	B723-050100-20015S

Product Name	Particle Size (μm)	Length (mm)	I.D.(mm)			
			10	20	30	50
ChromCore 120 C18	5	250	A001-050012-10025S	A001-050012-20025S	A001-050012-30025S	A001-050012-50025S
		150	A001-050012-10015S	A001-050012-20015S	A001-050012-30015S	A001-050012-50015S
ChromCore AQ C18	5	250	A201-050018-10025S	A201-050018-20025S	A201-050018-30025S	A201-050018-50025S
		150	A201-050018-10015S	A201-050018-20015S	A201-050018-30015S	A201-050018-50015S
ChromCore AR C18	5	250	A401-050012-10025S	A401-050012-20025S	A401-050012-30025S	A401-050012-50025S
		150	A401-050012-10015S	A401-050012-20015S	A401-050012-30015S	A401-050012-50015S
ChromCore BR C18	5	250	A301-050018-10025S	A301-050018-20025S	A301-050018-30025S	A301-050018-50025S
		150	A301-050018-10015S	A301-050018-20015S	A301-050018-30015S	A301-050018-50015S
ChromCore T3	5	250	A711-050012-10025S	A711-050012-20025S	A711-050012-30025S	A711-050012-50025S
		150	A711-050012-10015S	A711-050012-20015S	A711-050012-30015S	A711-050012-50015S
ChromCore Polar C18	5	250	A060-050012-10025S	A060-050012-20025S	A060-050012-30025S	A060-050012-50025S
		150	A060-050012-10015S	A060-050012-20015S	A060-050012-30015S	A060-050012-50015S
ChromCore 120 C8	5	250	A007-050012-10025S	A007-050012-20025S	A007-050012-30025S	A007-050012-50025S
		150	A007-050012-10015S	A007-050012-20015S	A007-050012-30015S	A007-050012-50015S
ChromCore AQ C8	5	250	A207-050018-10025S	A207-050018-20025S	A207-050018-30025S	A207-050018-50025S
		150	A207-050018-10015S	A207-050018-20015S	A207-050018-30015S	A207-050018-50015S
ChromCore C30	5	250	A062-050018-10025S	A062-050018-20025S	A062-050018-30025S	A062-050018-50025S
		150	A062-050018-10015S	A062-050018-20015S	A062-050018-30015S	A062-050018-50015S
ChromCore 300 C18	5	250	A001-050030-10025S	A001-050030-20025S	A001-050030-30025S	A001-050030-50025S
		150	A001-050030-10015S	A001-050030-20015S	A001-050030-30015S	A001-050030-50015S
ChromCore 300 C8	5	250	A007-050030-10025S	A007-050030-20025S	A007-050030-30025S	A007-050030-50025S
		150	A007-050030-10015S	A007-050030-20015S	A007-050030-30015S	A007-050030-50015S
ChromCore 300 C4-T	5	250	A226-050030-10025S	A226-050030-20025S	A226-050030-30025S	A226-050030-50025S
		150	A226-050030-10015S	A226-050030-20015S	A226-050030-30015S	A226-050030-50015S
ChromCore Phenyl	5	250	A011-050012-10025S	A011-050012-20025S	A011-050012-30025S	A011-050012-50025S
		150	A011-050012-10015S	A011-050012-20015S	A011-050012-30015S	A011-050012-50015S
ChromCore Phenyl-Hexyl	5	250	A311-050012-10025S	A311-050012-20025S	A311-050012-30025S	A311-050012-50025S
		150	A311-050012-10015S	A311-050012-20015S	A311-050012-30015S	A311-050012-50015S
ChromCore PFP	5	250	A043-050012-10025S	A043-050012-20025S	A043-050012-30025S	A043-050012-50025S
		150	A043-050012-10015S	A043-050012-20015S	A043-050012-30015S	A043-050012-50015S
ChromCore NH_2	5	250	A008-050012-10025S	A008-050012-20025S	A008-050012-30025S	A008-050012-50025S
		150	A008-050012-10015S	A008-050012-20015S	A008-050012-30015S	A008-050012-50015S
ChromCore Silica	5	250	A003-050012-10025S	A003-050012-20025S	A003-050012-30025S	A003-050012-50025S
		150	A003-050012-10015S	A003-050012-20015S	A003-050012-30015S	A003-050012-50015S
ChromCore HILIC-Amide	5	250	A068-050012-10025S	A068-050012-20025S	A068-050012-30025S	A068-050012-50025S
		150	A068-050012-10015S	A068-050012-20015S	A068-050012-30015S	A068-050012-50015S
ChromCore HILIC-Diol	5	250	A020-050012-10025S	A020-050012-20025S	A020-050012-30025S	A020-050012-50025S
		150	A020-050012-10015S	A020-050012-20015S	A020-050012-30015S	A020-050012-50015S
ChromCore HILIC-ZW	5	250	A114-050018-10025S	A114-050018-20025S	A114-050018-30025S	A114-050018-50025S
		150	A114-050018-10015S	A114-050018-20015S	A114-050018-30015S	A114-050018-50015S
ChromCore HILIC-Imidazole	5	250	A208-050012-10025S	A208-050012-20025S	A208-050012-30025S	A208-050012-50025S
		150	A208-050012-10015S	A208-050012-20015S	A208-050012-30015S	A208-050012-50015S
ChromCore HP C18	10	250	A701-100012-10025S	A701-100012-20025S	A701-100012-30025S	A701-100012-50025S
		150	A701-100012-10015S	A701-100012-20015S	A701-100012-30015S	A701-100012-50015S

Preparative Columns

ChromCore HP C18 Columns

ChromCore HP C18 is a family of high-performance, general-purpose reversed-phase LC columns, designed for laboratory-scale purifications. They are based on innovative monodispersed particle technology and proprietary C18 bonding chemistry and are suited for highly efficient separation and purification of compounds in pharma, foods and natural products.

Main Features

- Advanced monodispersed particle technology for high efficiency and mechanical strength
- Excellent chromatographic peak shape for acidic, basic and neutral analytes
- C18 selectivity with 100% aqueous compatibility
- Easy scale up from analytical to preparative
- Good column-to-column consistency

Specifications

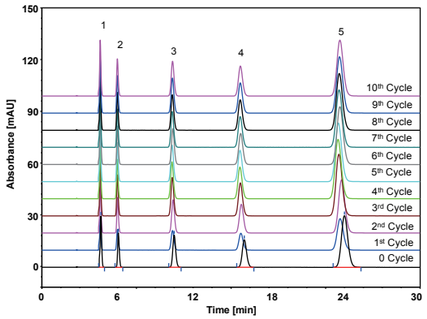
Product Name	ChromCore HP C18
Functional Group	Octadecyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	10 µm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	17%
End-capped	Yes
Pressure Limit	4000 psi
Temperature Limit	60 °C
pH Range	2-8
Aqueous Compatibility	100% aqueous

Ordering Information

Product Name	Particle Size (µm)	I.D. (mm)	Length (mm)	
			250	150
ChromCore HP C18	10	4.6	A701-100012-04625S	A701-100012-04615S
		10	A701-100012-10025S	A701-100012-10015S
		20	A701-100012-20025S	A701-100012-20015S
		30	A701-100012-30025S	A701-100012-30015S
		50	A701-100012-50025S	A701-100012-50015S

100% Aqueous Compatibility

The unique column chemistry ensures excellent compatibility with highly aqueous mobile phase.

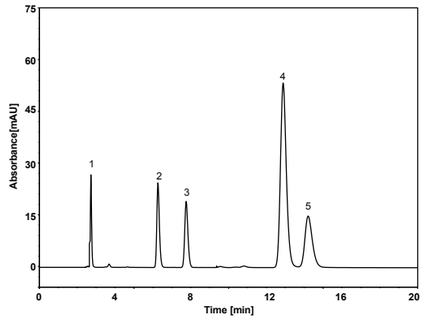


Column: **ChromCore HP C18**, 10 µm
Dimension: 4.6×250 mm
Mobile Phase: 100 mM CH_3COONH_4, pH5.2
Flow Rate: 1.0 mL/min
Temperature: 30 °C
Injection: 20 µL
Detection: UV 254 nm
Sample: Standard mix
Peaks: 1. Cytosine (10 µg/mL)
2. Uracil (5 µg/mL)
3. Guanine (10 µg/mL)
4. Thymine (10 µg/mL)
5. Adenine (20 µg/mL)

Protocol:
Step 1. Equilibrate column with the mobile phase for 20 min
Step 2. Start running the test for 10 min
Step 3. Stop flow for 10 min
Step 4. Repeat “Step 2” and “Step 3” for additional 9 cycles

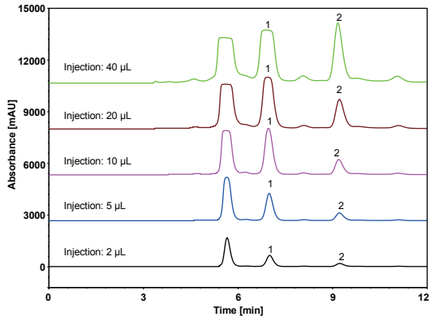
Good Peak Shape

The advanced bonding technology greatly minimizes silanol activity, improving peak shape for basic compounds (e.g., amitriptyline).

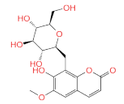


Column: **ChromCore HP C18**, 10 µm
Dimension: 4.6×250 mm
Mobile Phase: 80/20 v/v MeOH/30 mM phosphate buffer, pH7.0
Flow Rate: 1.0 mL/min
Temperature: 30 °C
Injection: 5 µL
Detection: UV 254 nm
Sample: Standard mix
Peaks: 1. Uracil (10 µg/mL)
2. Toluene (100 µg/mL)
3. Ethylbenzene (100 µg/mL)
4. Quinizarin (100 µg/mL)
5. Amitriptyline (100 µg/mL)

Loading Study on an Analytical Column

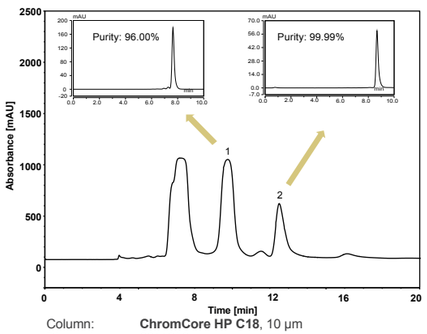


Column: **ChromCore HP C18**, 10 µm
Dimension: 4.6×250 mm
Mobile Phase: 70/30 v/v 0.1% FA in H_2O/MeOH
Flow Rate: 1.0 mL/min
Temperature: 25 °C
Injection: 2 µL/5 µL/10 µL/20 µL/40 µL
Detection: UV 334 nm
Sample: Extract of Cortex Fraxini
Peaks: 1. Fraxin (2.68 mg/mL)
2. Aesculetin (0.23 mg/mL)

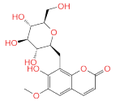

Fraxin


Aesculetin

Preparative Scale



Column: **ChromCore HP C18**, 10 µm
Dimension: 20×250 mm
Mobile Phase: 70/30 v/v 0.1% FA in H_2O/MeOH
Flow Rate: 15 mL/min
Temperature: 25 °C
Injection: 800 µL
Detection: UV 334 nm
Sample: Extract of Cortex Fraxini
Peaks: 1. Fraxin (2.68 mg/mL)
2. Aesculetin (0.23 mg/mL)


Fraxin


Aesculetin

Preparative Columns

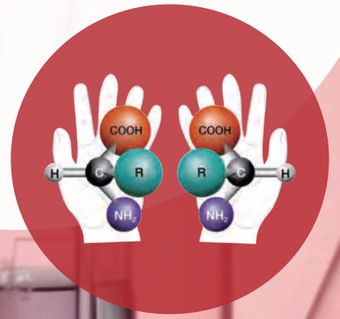
NanoChrom

Chiral Columns

Chiral HPLC Columns

for enantiomer separation

Amy-D	Cel-D	Amy-iA
Amy-S	Cel-J	Cel-iB
Amy-Y	Cel-X	Cel-iC
Amy-Z	Cel-Z	



ChiralCore™ Columns

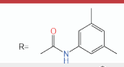
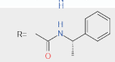
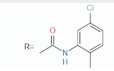
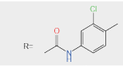
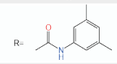
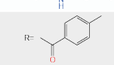
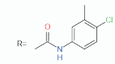
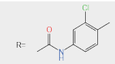
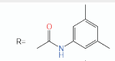
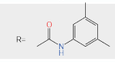
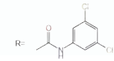
ChiralCore columns are a family of high-performance LC columns for enantiomer separation. They are based on high-purity spherical silica particles coated or bonded with chiral cellulose or amylose derivatives. The ChiralCore family comprises a spectrum of column chemistries with complementary selectivities under Normal Phase (NP), Reversed Phase (RP), and/or Supercritical Fluid Chromatography (SFC) modes, available in both analytical and preparative formats.

Main Features

- High-purity, wide-pore silica substrate for high column efficiency and resolution
- Various chiral column chemistries for a broad separation selectivity and application range
- Used in SFC, NP and RP modes
- Good column-to-column consistency

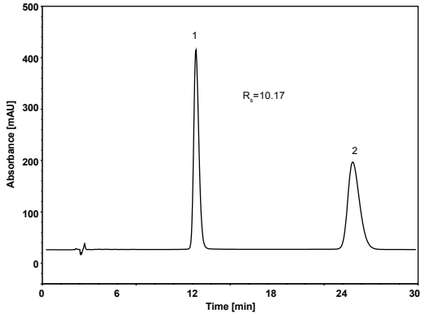
Product Name	ChiralCore
Functional Group	Polysaccharide derivatives
Substrate	High-purity, macroporous, spherical silica particles
Particle Size	5 µm
Pore Size	1000 Å
Pressure Limit	2200 psi
Temperature Range	0-40 °C
Storage Solvent	Hexane/IPA=90/10

ChiralCore Columns

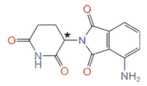
Product Name	Functional Group	Derivative Structure
Amy-D	Coated Amylose tris(3,5-dimethylphenylcarbamate)	
Amy-S	Coated Amylose tris-[(S)- α-methylbenzylcarbamate]	
Amy-Y	Coated Amylose tris(5-chloro-2-methylphenylcarbamate)	
Amy-Z	Coated Amylose tris(3-chloro-4-methylphenylcarbamate)	
Cel-D	Coated Cellulose tris(3,5-dimethylphenylcarbamate)	
Cel-J	Coated Cellulose tris(4-methylbenzoate)	
Cel-X	Coated Cellulose tris(4-chloro-3-methylphenylcarbamate)	
Cel-Z	Coated Cellulose tris(3-chloro-4-methylphenylcarbamate)	
Amy-iA	Bonded Amylose tris(3,5-dimethylphenylcarbamate)	
Cel-iB	Bonded Cellulose tris(3,5-dimethylphenylcarbamate)	
Cel-iC	Bonded Cellulose tris(3,5-dichlorophenylcarbamate)	

Applications

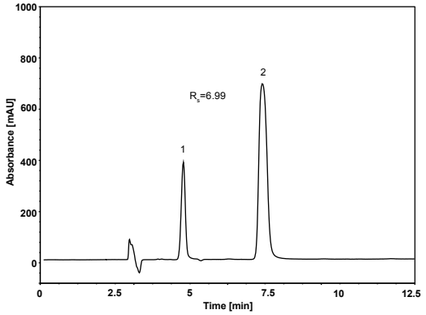
Pamalidomide



Column: **ChiralCore Amy-D**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 100/0.1 v/v MeOH/DEA
Flow Rate: 1.0 mL/min
Temperature: Room Temperature
Injection: 20 μL
Detection: UV 254 nm
Sample: Pamalidomide (0.8 mg/mL)

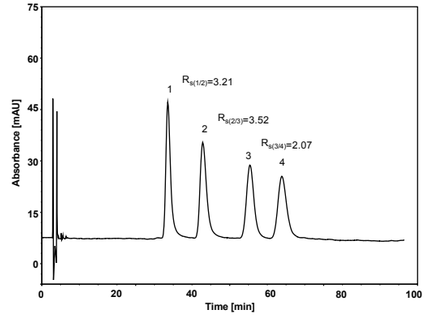


Boc-Pyro-Glutamic Acid

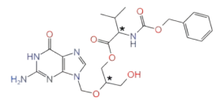


Column: **ChiralCore Amy-S**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 80/20/0.1 v/v/v Hexane/EtOH/TFA
Flow Rate: 1.0 mL/min
Temperature: Room Temperature
Injection: 10 μL
Detection: UV 200 nm
Sample: Boc-Pyro-Glutamic Acid
Peaks: 1. Boc-D-Pyro-Glutamic Acid (0.17 mg/mL)
2. Boc-L-Pyro-Glutamic Acid (0.83 mg/mL)

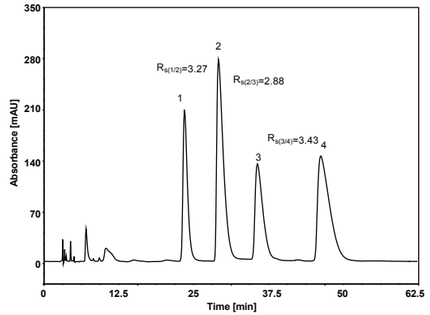
Pharmaceutical Intermediates



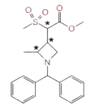
Column: **ChiralCore Amy-S**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 87.5/5/7.5/0.1 v/v/v/v Hexane/IPA/MeOH/DEA
Flow Rate: 1.0 mL/min
Temperature: Room Temperature
Injection: 10 μL
Detection: UV 254 nm
Sample: Pharmaceutical Intermediates (0.5 mg/mL each)



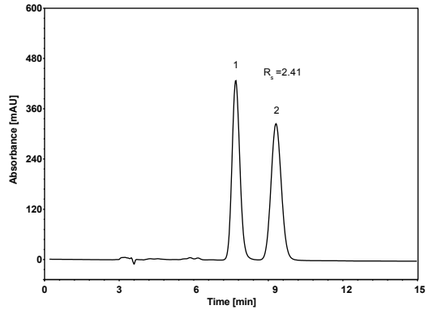
1-Diphenylmethyl-3-Azetidinyl Methanesulfonate



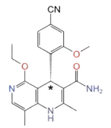
Column: **ChiralCore Amy-Y**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 95/2.5/2.5 v/v/v Hexane/IPA/EtOH
Flow Rate: 1.0 mL/min
Temperature: Room Temperature
Injection: 5 μL
Detection: UV 220 nm
Sample: Synthetic mixtures (5 mg/mL)



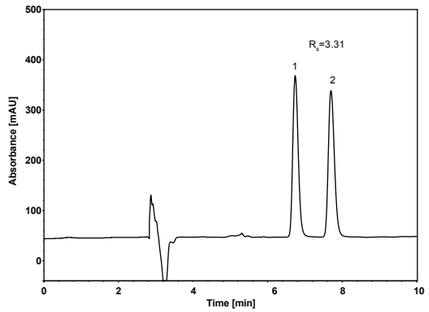
Finerenone



Column: **ChiralCore Amy-Z**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 70/30 v/v Hexane/IPA
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 10 μL
Detection: UV 254 nm
Sample: Finerenone (0.5 mg/mL, dissolved in MeOH)

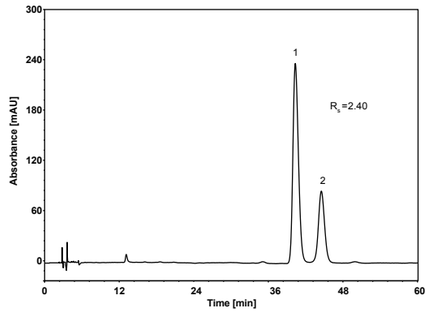


Ketamine

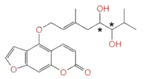


Column: **ChiralCore Cel-D**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 95/5 v/v Hexane/IPA
Flow Rate: 1.0 mL/min
Temperature: Room Temperature
Injection: 10 μL
Detection: UV 210 nm
Sample: Ketamine (1 mg/mL, dissolved in IPA)

Chiral Compounds

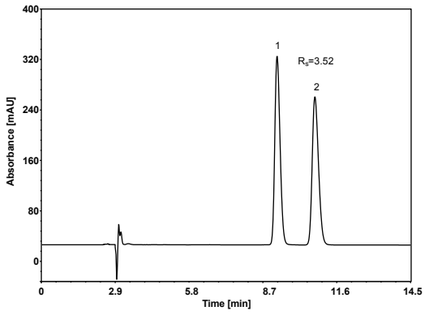


Column: **ChiralCore Cel-J**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 90/10 v/v Hexane/EtOH
Flow Rate: 1.0 mL/min
Temperature: Room Temperature
Injection: 5 μL
Detection: UV 254 nm

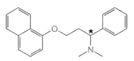


Chiral Columns

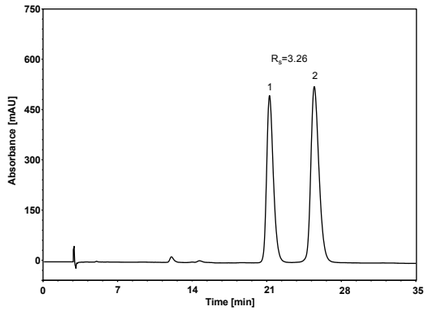
Dapoxetine



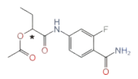
Column: **ChiralCore Cel-J**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 90/10/0.1 v/v/v MeOH/EtOH/DEA
Flow Rate: 1.0 mL/min
Temperature: Room Temperature
Injection: 10 μL
Detection: UV 290 nm
Sample: Dapoxetine (0.5 mg/mL, dissolved in EtOH)



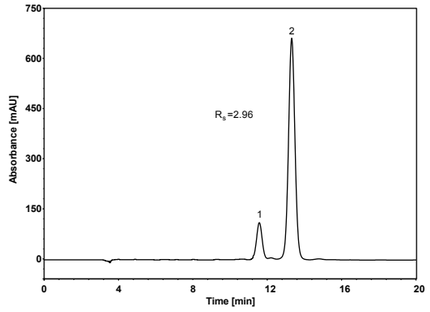
Pharmaceutical Intermediates



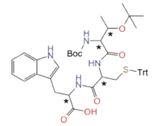
Column: **ChiralCore Cel-X**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 85/15/0.1 v/v Hexane/EtOH/DEA
Flow Rate: 1.0 mL/min
Temperature: Room Temperature
Injection: 5 μL
Detection: UV 270 nm
Sample: 0.5 mg/mL, dissolved in EtOH



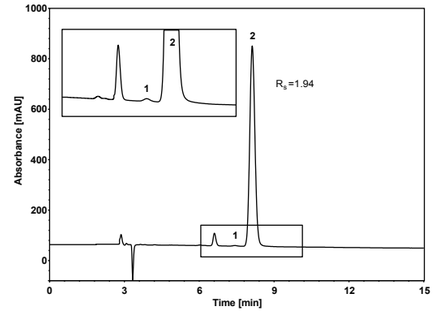
Tripeptide



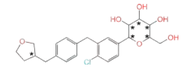
Column: **ChiralCore Cel-iB**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 60/40/0.1 v/v/v MeCN/H_2O/TFA
Flow Rate: 0.8 mL/min
Temperature: 35 ℃
Injection: 10 μL
Detection: UV 220 nm
Sample: Tripeptide (0.5 mg/mL)



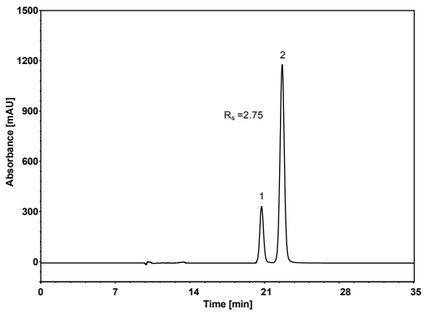
Empagliflozin



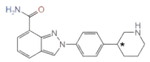
Column: **ChiralCore Cel-iC**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 60/40/0.2 v/v/v Hexane/EtOH/CH_3COOH
Flow Rate: 1.0 mL/min
Temperature: Room Temperature
Injection: 10 μL
Detection: UV 225 nm
Sample: Empagliflozin (0.5 mg/mL)



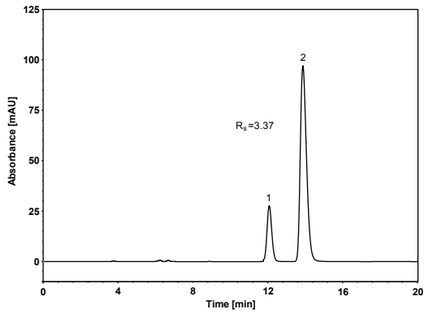
Nilaparil Benzenesulfonate



Column: **ChiralCore Cel-Z**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 80/20/0.1 v/v MeOH/IPA/DEA
Flow Rate: 0.3 mL/min
Temperature: 35 ℃
Injection: 10 μL
Detection: UV 240 nm
Sample: Nilaparil Benzenesulfonate
Peaks: 1. Isomer of Nilaparil (0.2 mg/mL)
2. Nilaparil (1 mg/mL)



Menthol Benzoate



Column: **ChiralCore Amy-iA**, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 80/20 v/v EtOH/H_2O
Flow Rate: 0.5 mL/min
Temperature: 25 ℃
Injection: 10 μL
Detection: UV 254 nm
Sample: Menthol Benzoate (0.5 mg/mL, dissolved in EtOH)

Ordering Information

Product Name	Particle Size (μm)	L x I.D.(mm)			
		250x4.6	250x10	250x20	250x30
ChiralCore Amy-D	5	CCA1-050100-04625S	CCA1-050100-10025S	CCA1-050100-20025S	CCA1-050100-30025S
ChiralCore Amy-S	5	CCA3-050100-04625S	CCA3-050100-10025S	CCA3-050100-20025S	CCA3-050100-30025S
ChiralCore Amy-Y	5	CCA2-050100-04625S	CCA2-050100-10025S	CCA2-050100-20025S	CCA2-050100-30025S
ChiralCore Amy-Z	5	CCA5-050100-04625S	CCA5-050100-10025S	CCA5-050100-20025S	CCA5-050100-30025S
ChiralCore Cel-D	5	CCC1-050100-04625S	CCC1-050100-10025S	CCC1-050100-20025S	CCC1-050100-30025S
ChiralCore Cel-J	5	CCC3-050100-04625S	CCC3-050100-10025S	CCC3-050100-20025S	CCC3-050100-30025S
ChiralCore Cel-X	5	CCC4-050100-04625S	CCC4-050100-10025S	CCC4-050100-20025S	CCC4-050100-30025S
ChiralCore Cel-Z	5	CCC2-050100-04625S	CCC2-050100-10025S	CCC2-050100-20025S	CCC2-050100-30025S
ChiralCore Amy-iA	5	CBA1-050010-04625S	CBA1-050010-10025S	CBA1-050010-20025S	CBA1-050010-30025S
ChiralCore Cel-iB	5	CBC2-050010-04625S	CBC2-050010-10025S	CBC2-050010-20025S	CBC2-050010-30025S
ChiralCore Cel-iC	5	CBC1-050010-04625S	CBC1-050010-10025S	CBC1-050010-20025S	CBC1-050010-30025S

Chiral Columns

NanoChrom

Sample Preparation Products

Solid Phase Extraction

Sample Preparation Products

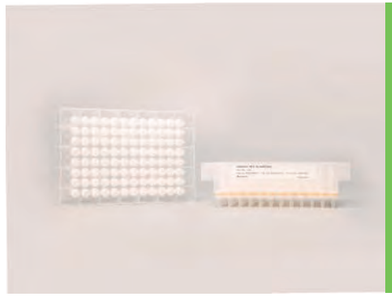
SelectCore sample preparation portfolio, consisting of SPE cartridges/96-well plates and QuEChERS dispersive SPE products, is designed for a broad range of applications in food & beverage, environmental, clinical diagnostics, herbal medicine, scientific research, etc.

SPE Cartridges

Solid Phase Extraction Cartridges

SPE (Solid Phase Extraction) is a sample prep technique relying on selective component partitioning, widely used in food, agriculture, cosmetics, and environmental analysis. NanoChrom provides a range of SPE products leveraging advanced monodispersed particles and surface chemistry for precise quantification.

- PVP/DVB: HLB, MCX, MAX, WCX, WAX
- Silica: Silica, C18, NH_2, PSA, SCX, SAX
- Affinity: AFT Total, OTA, DON, ZEA, Heparin, Protein A, Protein G



96-well Plates

96-well Extraction Plates

SelectCore 96-well plates feature monodispersed PVP/DVB sorbents with good wettability, chemical stability, and high capacity. They are used for catecholamines, metanephrines, hormones, vitamins, and more, offering rapid sample clean-up and enrichment with high throughput and recovery.

- PVP-DVB: HLB, MCX, MAX, WCX, WAX

QuEChERS

QuEChERS Products

The QuEChERS method extracts pesticides and veterinary drug residues from foods, biological fluids, and environmental samples. SelectCore QuEChERS Products, including extraction and dispersive SPE kits, are pre-packaged with pre-weighed salts and sorbents, meeting regulatory standards.

- Extraction Kits
- Dispersive SPE Kits

SelectCore Solid Phase Extraction

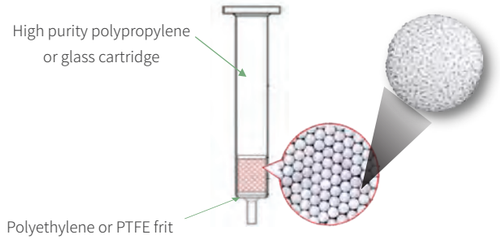
Solid Phase Extraction (SPE) is a sample preparation technique based on the selective partitioning of multi-components. SPE cartridges are commonly used in sample preparation and analysis of food, agriculture, cosmetics and environmental samples, etc.

NanoChrom offers a comprehensive portfolio of SPE products based on advanced monodispersed particle technology and surface chemistry to meet accurate quantification demands.

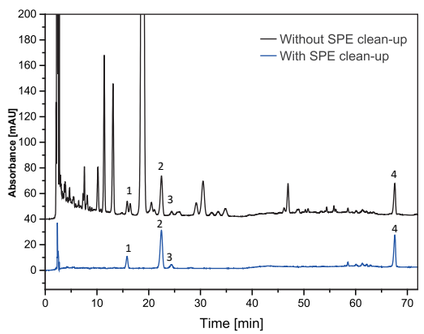
Main Features

- Improve the detection sensitivity by integrating sample enrichment and purification
- Remove sample interferences that coelute with the analytes of interest
- Protect the analytical column from contaminants
- Consume less solvent than liquid/liquid extraction

SelectCore SPE sorbents featuring unique monodispersed particles with high extraction efficiency



Components of SelectCore SPE Cartridges



Column:	**ChromCore 300 C18**, 5 μm		
Dimension:	4.6 × 250 mm		
Mobile Phase:	A）0.1% H_3PO_4		
	B）MeCN		
Gradient:	t (min)	%A	%B
	0	81	19
	35	81	19
	55	71	29
	70	71	29
	100	60	40
Flow Rate:	1.3 mL/min		
Temperature:	30 ℃		
Injection:	10 μL		
Detection:	UV 203 nm		
Peaks:	1. Notoginsenoside R_1		
	2. Ginsenoside Rg_1		
	3. Ginsenoside Re		
	4. Ginsenoside Rb_1		

Herbal medicine sample HPLC analysis with or without SPE clean-up

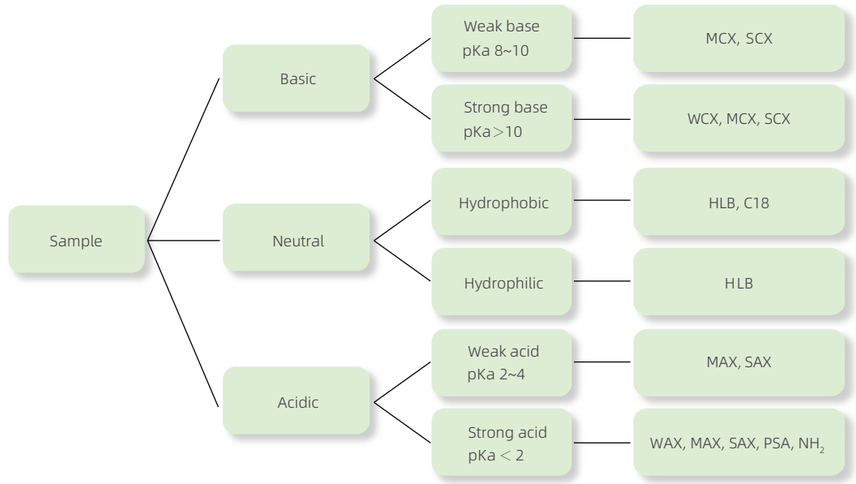
(SelectCore HR-C18 500mg/6mL)

SelectCore SPE

	Substrate	Separation Mode	Product	Main Features
	PVP/DVB	Hydrophobic	HLB	High efficiency High recovery
		IEX	MCX, MAX WCX, WAX	
	PMMA or Agarose	Affinity	AFT Total OTA, DON, ZEA Heparin Protein A, Protein G	High selectivity
	Silica	Normal phase	Silica, NH_2	Good selectivity High resolution
		Reversed phase	C18	
		IEX	PSA, SCX, SAX	

SPE Product Selection Guide

Select the appropriate SPE cartridge according to the difference between the target compound and interference, such as polarity, molecular weight, pKa value, etc.



Sample Preparation

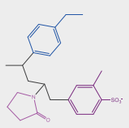
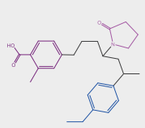
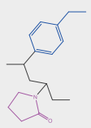
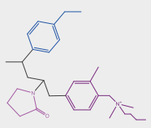
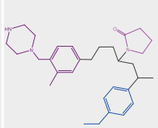
PVP/DVB based SPE

SelectCore PVP/DVB SPE, based on the copolymer of N-vinylpyrrolidonre (hydrophilic) and divinylbenzene (hydrophobic), is specifically designed to handle a broad range of compounds from aqueous samples. With its unique features resulting from advanced particle technology and optimized surface chemistry, SelectCore PVP/DVB based product is widely used in the sample preparation for liquid and gas chromatography.

Main Features

- High dynamic binding capacity for samples
- High throughput capability
- Good batch-to-batch reproducibility
- Excellent recovery

Specifications

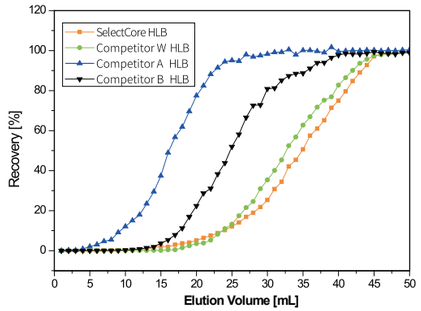
Product	SelectCore MCX	SelectCore WCX	SelectCore HLB	SelectCore MAX	SelectCore WAX
Substrate	PVP/DVB				
Functional Group					
Particle Size	60 μm & 25 μm				
Pore Size	200 Å				
Compounds	Basic		Neutral	Acidic	
	Weak base (pKa 8~10)	Strong base (pKa >10)	pKa 4~8	Weak acid (pKa 2~4)	Strong acid (pKa <2)

Ordering Information

Specifications	Package	SelectCore HLB	SelectCore MCX	SelectCore WCX	SelectCore MAX	SelectCore WAX
30mg/1mL	100/pkg	HLB060-010030-1	MCX060-010030-1	WCX060-010030-1	MAX060-010030-1	WAX060-010030-1
60mg/3mL	50/pkg	HLB060-030060-1	MCX060-030060-1	WCX060-030060-1	MAX060-030060-1	WAX060-030060-1
150mg/6mL	30/pkg	HLB060-060150-1	MCX060-060150-1	WCX060-060150-1	MAX060-060150-1	WAX060-060150-1
200mg/6mL	30/pkg	HLB060-060200-1	MCX060-060200-1	WCX060-060200-1	MAX060-060200-1	WAX060-060200-1
500mg/6mL	30/pkg	HLB060-060500-1	MCX060-060500-1	WCX060-060500-1	MAX060-060500-1	WAX060-060500-1

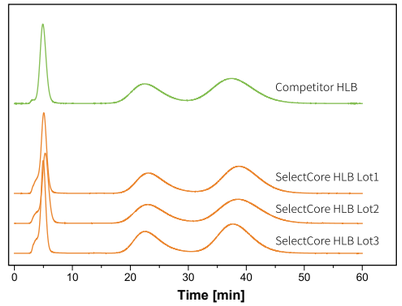
High dynamic binding capacity

Based on advanced particle technology and optimized surface chemistry, SelectCore PVP/DVB SPE offers a high dynamic binding capacity for various samples.



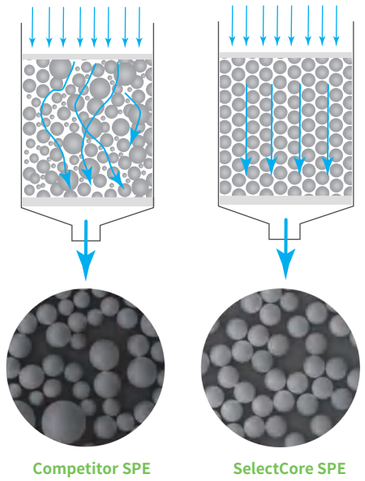
Good batch-to-batch reproducibility

With the unique monodispersed polymer matrix and well-controlled bonding process, SelectCore PVP/DVB sorbents deliver reproducible results with consistent elution time and volume.



High throughput capability

Due to the advanced monodispersed spherical particle technology and the absence of fine particles, high throughput sample preparation can be achieved with SelectCore PVP/DVB based SPE cartridges.



Excellent recovery

SelectCore PVP/DVB products provide excellent recovery for a broad range of compounds owing to their optimized surface chemistry.

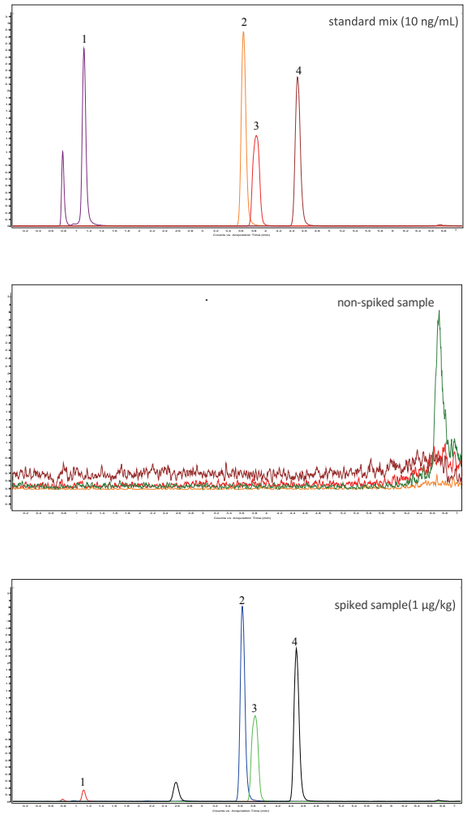
Compound	Specification recovery	Average recovery (n=6)
Ranitidine	≥90%	96.5%
Acetaminophen	≥90%	99.5%
Oxytetracycline	≥90%	94.8%
Tetracycline	≥90%	95.4%
Chlortetracycline	≥90%	105.6%
Doxycycline	≥90%	102.4%

Applications

01 β-receptor agonist residue determination in pork

LC-MS/MS analysis of the β-receptor agonist residue (salbutamol, clorprenaline, ractompamine, clebuterol) extracted from pork samples with **SelectCore MCX** 60mg/3mL cartridge.

Conditioning	01	Wash the cartridge with methanol and water (3 mL each) for activation.
Sample loading	02	Load the sample onto the cartridge (discard the effluent).
Washing	03	Wash the cartridge with 3 mL 2% formic acid aqueous solution and then 3 mL methanol (discard the effluent).
Elution	04	Elute the cartridge with 2.5 mL of 3% ammonia in methanol and collect the eluate.
Analysis	05	Evaporate and reconstitute.



Column: **ChromCore C18**, 3 μm
Dimension: 2.1×100 mm
Mobile Phase: A）0.1% fomic acid
B）MeCN

Gradient:

t (min)	%A	%B
0	90	10
1	80	20
4	75	25
5	5	95
7	5	95
7.1	90	10
10	90	10

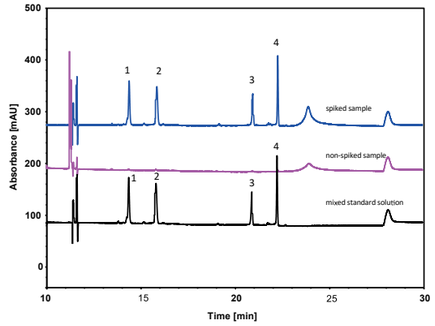
Flow Rate: 0.4 mL/min
Temperature: 30 ℃
Injection: 2 μL
Detection: MS (ESI Positive)
Peaks:
1. Salbutamol
2. Clorprenaline
3. Ractompamine
4. Clebuterol

Compound	Recovery (%) 1 μg/kg
Salbutamol	96.5%
Clorprenaline	98.4%
Ractompamine	101.2%
Clebuterol	97.3%

02 Antibiotic residue determination in egg

HPLC analysis of the oxytetracycline, tetracycline, chlortetracycline and doxycycline extracted from egg samples with **SelectCore HLB** 150mg/6mL cartridge.

Conditioning	01	Wash the cartridge with methanol and water (3 mL each) for activation.
Sample loading	02	Load the sample onto the cartridge (discard the effluent).
Washing	03	Wash the cartridge with 5 mL water (discard the effluent).
Elution	04	Elute the cartridge with 10 mL of methanol and collect the eluate.
Analysis	05	Evaporate and reconstitute.



Column: **ChromCore C18**, 3 μm
Dimension: 4.6×150 mm
Mobile Phase: A) 0.01 M oxalic acid
B) MeCN

Gradient:

t (min)	%A	%B
0	85	15
6	85	15
15	70	30
20	70	30
22	85	15
25	85	15

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 10 μL
Detection: UV 350 nm
Peaks:
1. Oxytetracycline
2. Tetracycline
3. Chlortetracycline
4. Doxycycline

Compound	Recovery (%) 0.4 mg/Kg
Oxytetracycline	95%
Tetracycline	88%
Chlortetracycline	99%
Doxycycline	91%

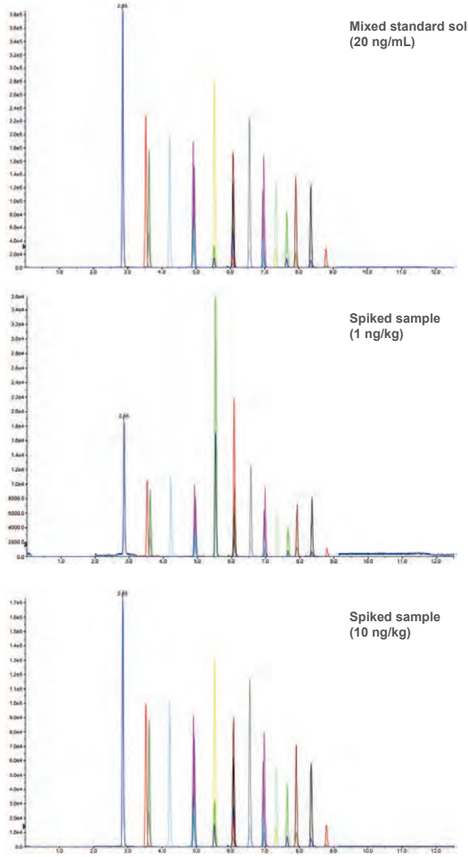
Sample Preparation

03 Per- and polyfluorinated alkyl substances (PFAS) analysis in drinking water

LC-MS/MS analysis of the per- and polyfluorinated alkyl substances extracted from drinking water with **SelectCore WAX** 150 mg/6mL cartridge.

Conditioning → **Sample loading** → **Washing** → **Elution** → **Analysis**

01	Wash the cartridge with methanol and water (6 mL each) for activation.
02	Load the water sample onto the cartridge and adjust flow rate to approximately 5 mL/min (discard the effluent).
03	Wash the cartridge with 6mL water and then 8 mL ammonium acetate buffer solution (discard the effluent).
04	Elute the cartridge with 6 mL of 2% ammonia in methanol and collect the eluate.
05	Evaporate and reconstitute.



LC-MS/MS chromatograms of the per- and polyfluorinated alkyl substances extracted from drinking water with SelectCore WAX cartridges (150 mg/6 mL)

Column: **ChromCore C18**, 3 µm
Dimension: 2.1×150 mm
Mobile Phase: A) 2 mM ammonium acetate solution
B) MeOH
Gradient:

t (min)	%A	%B
0	95	5
1.5	50	50
7.0	10	90
10.5	5	95
10.7	95	5
12.5	95	5

Flow Rate: 0.30 mL/min
Temperature: 30 ° C
Injection: 3 µL
Detection: MS (ESI Negative)

Recoveries of 17 PFAS in drinking water

Compound	R.T. (min)	Spike (ng/L)	Recovery (%)
PFBA	2.85	0.50	74.7
PFPeA	3.52	0.50	76.7
PFBS	3.61	0.50	85.3
PFHxA	4.21	0.50	90.7
PFHpA	4.91	0.50	74.0
PFHxS	4.93	0.50	84.7
PFOA	5.53	0.50	80.0
PFOS	6.06	0.50	99.3
PFNA	6.07	0.50	74.7
PFDA	6.55	0.50	76.7
PFDS	6.94	0.50	79.7
PFUnDA	6.97	0.50	74.0
PFDoDA	7.33	0.50	76.0
PFTrDA	7.64	0.50	74.3
PFTeDA	7.91	0.50	74.7
PFHxDA	8.35	0.50	76.7
PFODA	8.79	0.50	78.0

PFBA: Perfluorobutanoic acid
PFPeA: Perfluoropentanoic acid
PFBS: Perfluorobutanesulfonic acid
PFHxA: Perfluorohexanoic acid
PFHpA: Perfluoroheptanoic acid
PFHxS: Perfluorohexanesulfonic acid
PFOA: Perfluorooctanoic Acid
PFOS: Perfluorooctanesulfonic acid
PFNA: Perfluorononanoic acid
PFDA: Perfluorocapric acid
PFDS: Perfluorodecanesulfonic acid
PFUnDA: Perfluoroundecanoic acid
PFDoDA: Perfluorolauric acid
PFTrDA: Perfluorotridecanoic acid
PFTeDA: Perfluorotetradecanoic acid
PFHxDA: Perfluorohexadecanoic acid
PFODA: Perfluorooctadecanoic acid

Silica based SPE

SelectCore Silica based SPE cartridges, made from high quality silica material, are widely used for quick and effective sample extraction in food, biological, pharmaceutical, forensic and environmental applications.

Specifications

Product	Particle size	Description
Silica	50 µm	Spherical bare silica as the normal phase adsorbent with weak acidity and strong polarity.
C18	50 µm	Octadecyl silane bonded high purity, spherical silica particles with high carbon loading, strong hydrophobicity and good chemical stability.
NH_2	50 µm	Ammonia-propyl modified high purity, spherical silica particles with both polar and weak anion exchange properties, providing weak anion exchange and hydrophilic interactions.
PSA	50 µm	Ethylenediamine-N-propyl bonded high purity, spherical silica particles which contain both primary and secondary amines, used for the extraction of strongly acidic compounds from aqueous samples based on a weak anion exchange retention mechanism.
SCX	50 µm	Propyl sulfonic acid bonded high purity, spherical silica particles with strong cation exchange capability, which is recommended for extraction of basic compounds.
SAX	50 µm	Quaternary ammonium bonded high purity, spherical silica particles, which have a strong anion exchange capacity for extracting weakly acidic compounds such as carboxylic acids.

Ordering Information

Specifications	Package	SelectCore Silica	SelectCore C18	SelectCore NH_2	SelectCore PSA	SelectCore SCX	SelectCore SAX
100mg/1mL	100/pkg	SI050-010100-1	C18050-010100-1	NH050-010100-1	PSA050-010100-1	SCX050-010100-1	SAX050-010100-1
200mg/3mL	50/pkg	SI050-030200-1	C18050-030200-1	NH050-030200-1	PSA050-030200-1	SCX050-030200-1	SAX050-030200-1
500mg/3mL	50/pkg	SI050-030500-1	C18050-030500-1	NH050-030500-1	PSA050-030500-1	SCX050-030500-1	SAX050-030500-1
500mg/6mL	30/pkg	SI050-060500-1	C18050-060500-1	NH050-060500-1	PSA050-060500-1	SCX050-060500-1	SAX050-060500-1
1000mg/6mL	30/pkg	SI050-061000-1	C18050-061000-1	NH050-061000-1	PSA050-061000-1	SCX050-061000-1	SAX050-061000-1

Sample Preparation Products

Affinity SPE

SelectCore Affinity SPE products offer an exclusive selection for a variety of samples, and these products are engineered for the selective extraction of mycotoxins, monoclonal and polyclonal antibodies, bispecific antibodies, and other biomolecules for subsequent analysis.

Main Features

- Rigid matrix enables high throughput sample preparation
- High dynamic binding capacity resulting from optimal ligand coupling
- Minimal non-specific binding for high recovery

Specifications

Product	Substrate	Particle size	Description
AFT Total	Cross-linked agarose beads	90 μm	Immunoaffinity SPE sorbent based on highly cross-linked agarose immobilized with monoclonal antibody, used for enrichment and detection of aflatoxin B1, B2, G1, G2 mycotoxin.
OTA		90 μm	Immunoaffinity SPE sorbent utilizing highly cross-linked agarose with immobilized monoclonal antibody, designed for the enrichment and detection of ochratoxin A mycotoxin.
ZEA		90 μm	Immunoaffinity SPE sorbent with highly cross-linked agarose immobilized with monoclonal antibody, used to enrich and detect zearalenone mycotoxin.
DON		90 μm	Immunoaffinity SPE sorbent based on highly cross-linked agarose immobilized with monoclonal antibody, for sample enrichment and detection of deoxynivalenol mycotoxin.
Heparin	Cross-linked agarose beads	90 μm	Affinity SPE sorbent utilizing highly cross-linked agarose with immobilized heparin ligand, widely used for the purification of biomolecules, including plasma coagulation proteins, lipoprotein lipase, collagenase, and DNA polymerase.
Protein A	Polymethacrylate	50 μm	Affinity SPE sorbent, based on rigid monodispersed polymethacrylate particles immobilized with recombinant protein A ligand, offering minimal non-specific binding and excellent Fc-binding selectivity.
Protein G	Cross-linked agarose beads	90 μm	Affinity SPE sorbent, based on highly cross-linked agarose immobilized with recombinant Protein G ligand, providing specific binding to the Fc region of IgG from a variety of mammalian species.

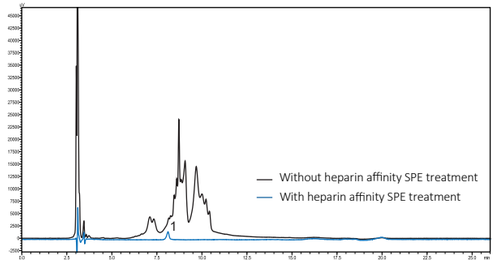
Ordering Information

Product Name	Specifications	Package	Part No.
SelectCore AFT Total	3mL	25/pkg	AFTT100-030300-2
SelectCore OTA	3mL	25/pkg	OTA100-030300-2
SelectCore ZEA	3mL	25/pkg	ZEA100-031500-2
SelectCore DON	3mL	25/pkg	DON100-031500-2
SelectCore Heparin	1mL	20/pkg	HEP065-030001-1
SelectCore Protein A	1mL	20/pkg	PTA050-030001-1
SelectCore Protein G	1mL	20/pkg	PTG065-030001-1M

Applications

Lactoferrin determination in milk

To analyze lactoferrin in infant milk, Heparin SPE is required to remove interferences in this complex sample - the target substance can be detected and quantified. In contrast, without such treatment, the target substance is “buried” in the sample matrix, thus failing to achieve satisfactory result.



Conditioning ↓ **Sample loading** ↓ **Washing** ↓ **Elution** ↓ **Analysis**

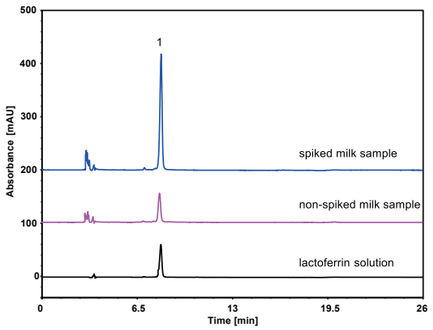
01 Condition the cartridge with 5 mL 0.2 M phosphate buffer (pH7.5) for activation.

02 Load the sample onto the cartridge (discard the effluent).

03 Wash the cartridge with 10 mL 0.2 M phosphate buffer, pH7.5 (discard the effluent).

04 Elute the cartridge with 5 mL 0.05 M phosphate buffer with 1M NaCl (pH8.0) solution and collect the eluate.

05 Dilute and analyze.



Column:	**ChromCore 300 C4-T**, 5 μm		
Dimension:	4.6×250 mm		
Mobile Phase:	A) 0.1%TFA		
	B) MeCN		
Gradient:	t (min)	%A	%B
	0	70	30
	15	40	60
	16	70	30
	26	70	30
Flow Rate:	1.0 mL/min		
Temperature:	30 ℃		
Injection:	20 μL		
Detection:	UV 280 nm		
Peaks:	1. Lactoferrin		

Spiked	Recovery
100 mg/g	94.30%
500 mg/g	95.61%

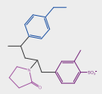
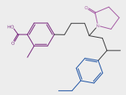
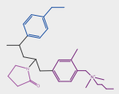
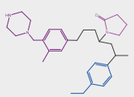
96-well Extraction Plates

SelectCore 96-well plates contain a portfolio of monodispersed PVP/DVB polymer sorbents, which have good aqueous wettability, excellent chemical stability, and high capacity for most acidic, basic, and neutral compounds. They are widely used in catecholamines and metanephrines, hormones, fat-soluble vitamins and other clinical analysis. They are ideal for rapid sample clean-up and analyte enrichment with high throughput and recovery.

Main Features

- Advanced monodispersed particle technology for high separation efficiency
- Wide pH range (pH1-14)
- High capacity and good recovery
- Good batch-to-batch consistency

Specifications

Product	SelectCore HLB 96-well plate	SelectCore MCX 96-well plate	SelectCore WCX 96-well plate	SelectCore MAX 96-well plate	SelectCore WAX 96-well plate
Substrate	PVP/DVB				
Functional Group					
Particle Size	60 μm & 25 μm				
Pore Size	200 Å				
Application	Reversed phase sorbent for extraction of acids, bases and neutrals compounds	Mixed-mode strong cation exchange sorbent for extraction of basic compounds	Mixed-mode weak cation exchange sorbent for extraction of strong bases and quaternary amines compounds	Mixed-mode strong anion exchange sorbent for extraction of acidic compounds	Mixed-mode weak anion exchange sorbent for extraction of strong acidic compounds

Ordering Information

Particle Size	Specifications	Package	SelectCore HLB 96-well Plates	SelectCore MCX 96-well Plates	SelectCore WCX 96-well Plates	SelectCore MAX 96-well Plates	SelectCore WAX 96-well Plates
60μm	30mg	1/pkg	HLB060-96WP30-1	MCX060-96WP30-1	WCX060-96WP30-1	/	/
25μm	10mg	1/pkg	HLB025-96WP10-1	MCX025-96WP10-1	WCX025-96WP10-1	MAX025-96WP10-1	/
25μm	5mg	1/pkg	HLB025-96WP05-1	MCX025-96WP05-1	WCX025-96WP05-1	MAX025-96WP05-1	WAX025-96WP05-1
25μm	3mg	1/pkg	HLB025-96WP03-1	MCX025-96WP03-1	WCX025-96WP03-1	MAX025-96WP03-1	WAX025-96WP03-1

Applications

Clinical Analysis of Plasma Catecholamines and Metanephrines by HPLC-MS/MS

Clinical analysis of catecholamines and metanephrines extracted from plasma with SelectCore WCX 96-well plate.

(1) Condition SelectCore WCX 96-well plate with 200 μL of MeOH and 200 μL of water,

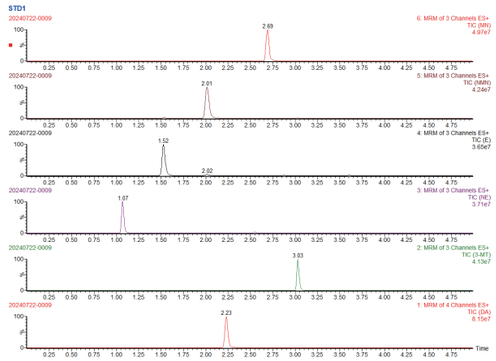
(2) Dilute the pooled plasma samples (200 μL) with 200 μL of 50 mM ammonium acetate and then spike with 50 μL of internal standard solution,

(3) Load the pre-treated samples (350 μL) in individual wells of SelectCore WCX 96-well plate,

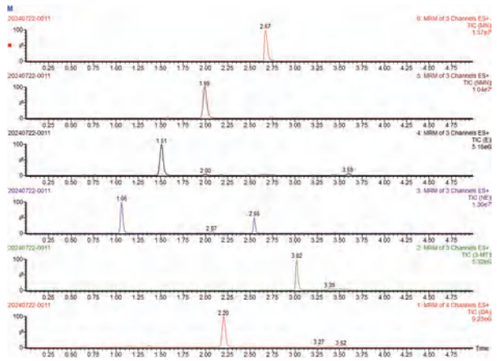
(4) Wash the 96-well plate with 200 μL of 25 mM ammonium acetate followed by 200 μL of MeCN, and then dry it under vacuum for 30 s,

(5) Elute the target catecholamines compounds from the plate with 70 μL aliquots of 85:15 MeCN:H_2O containing 2% formic acid into 96-well sample collection plate,

(6) Evaporate the collected samples to dryness and reconstituted them in 40 μL of 97:2:1 H_2O:MeCN:FA solution.



LC-MS/MS chromatograms of catecholamines and metanephrines standard solution



LC-MS/MS chromatograms of catecholamines and metanephrines extracted from plasma with SelectCore WCX 96-well plate

Recoveries for plasma catecholamines and metanephrines

Compound	R.T. (min)	Spike (pg/mL)	Recovery (%)
Metanephrine (MN)	2.69	59.10	100.4
		294.98	100.1
		973.11	98.8
Normetanephrine (NMN)	2.01	60.66	101.7
		304.54	99.7
		1010.01	98.5
Epinephrine (E)	1.52	103.76	97.8
		324.97	93.5
		2070.30	96.2
Norepinephrine (NE)	1.07	94.04	109.0
		1443.21	109.0
		1896.15	109.4
3-Methoxytyramine (3-MT)	3.03	9.32	103.1
		100.19	102.9
		391.56	105.5
Dopamine (DA)	2.23	27.57	98.5
		92.11	96.3
		1785.45	100.5

Column: **ChromCore PFP**, 1.8 μm
Dimension: 2.1×100 mm
Mobile Phase: A) 0.1% FA
B) MeCN

Gradient: t (min)	%A	%B
0.00	98	2
1.00	98	2
2.50	80	20
3.00	5	95
4.00	5	95
5.00	98	2

Flow Rate: 0.4 mL/min
Injection: 10 μL
Detection: MS/MS

SelectCore QuEChERS Products

The Quick, Easy, Cheap, Effective, Rugged and Safe (QuEChERS) method is a straightforward sample preparation technique designed for extracting pesticides and veterinary drugs residues from various matrices including foods, biological fluids and environmental samples. SelectCore QuEChERS Products, including both extraction and dispersive SPE kits, are conveniently pre-packaged with pre-weighed anhydrous salts and sorbents in packets and tubes, in line with regulatory standards.

QuEChERS Extraction Kits

QuEChERS Dispersive SPE Kits

QuEChERS Dispersive SPE Kits

During extraction, SelectCore QuEChERS extraction kits are added to prevent exothermic reactions, minimize sample degradation, and maximize recoveries. Two primary methods are used:

- **EN 15662** (European Committee for Standardization Method), which uses a citrate buffer for extraction.
- **AOAC 2007** (Association of Analytical Communities Official Method), which uses an acetic acid buffer.

SelectCore QuEChERS extraction kits offer various buffering strengths, promote liquid phase separation, as well as stabilize acid and base labile pesticides.

Method	Composition	Buffering Conditions	Part No.	Unit
EN 15662	4 g $MgSO_4$, 1 g NaCl, 1 g TSCD, 0.5 g DHS	Relatively strong acetate buffering conditions (pH 4.8)	QS-001	50/pkg
AOAC 2007	6 g $MgSO_4$, 1.5 g NaOAc	Weaker citrate buffering conditions (pH 5-5.5)	QS-002	50/pkg

MgSO4 – Magnesium Sulfate
NaCl – Sodium Chloride
NaOAc – Sodium Acetate
TSCD – Trisodium Citrate Dihydrate
DHS – Disodium Hydrogen Citrate Sesquihydrate

QuEChERS SPE Kits

SelectCore QuEChERS dispersive SPE kits contain pre-weighed PSA/C18/GCB sorbent blends that help to remove matrix interferences from samples.

- **$MgSO_4$** removes residual water and improves analyte partitioning.
- **PSA** removes sugars, fatty acids, organic acids, lipids and polar pigments.
- **C18** removes long-chain fatty compounds, sterols, and other nonpolar interferences.
- **GCB** removes pigments, polyphenols, and other polar compounds.

After clean-up, the sample mixture is centrifuged, and the supernatant can be analyzed directly or undergo minor additional treatment before analysis.

Kits	Product Description	Part No.
General fruits and vegetables: Removes polar organic acids and sugars	SelectCore QuEChERS dispersive kit 2mL, 150mg $MgSO_4$, 25mg PSA; 100/pkg	Q-02P02
	SelectCore QuEChERS dispersive kit 15mL, 900mg $MgSO_4$, 150mg PSA; 50/pkg	Q-15P02
Highly pigmented fruits and vegetables: Removes polar organic acids, sugars and high levels of carotenoids and chlorophyll	SelectCore QuEChERS dispersive kit 2mL, 150mg $MgSO_4$, 25mg PSA, 2.5 mg GCB; 100/pkg	Q-02PG01
	SelectCore QuEChERS dispersive kit 15mL, 885mg $MgSO_4$, 150mg PSA, 15mg GCB; 50/pkg	Q-15PG01
	SelectCore QuEChERS dispersive kit 15mL, 855 mg $MgSO_4$, 150mg PSA, 45mg GCB; 50/pkg	Q-15PG02
	SelectCore QuEChERS dispersive kit 15mL, Pesticide Residue A01; 50/pkg	Q-15A01
Fruits and vegetables with fats and waxes: Removes polar organic acids, sugars, lipids and sterols	SelectCore QuEChERS dispersive kit 2mL, 150mg $MgSO_4$, 50mg PSA, 50mg C18; 100/pkg	Q-02PC02
	SelectCore QuEChERS dispersive kit 15mL, 1200mg $MgSO_4$, 400mg PSA, 400mg C18; 50/pkg	Q-15PC01
Tea: Removes polyphenols, caffeine and high levels of chlorophyll	SelectCore QuEChERS dispersive kit 2mL, 150mg $MgSO_4$, 50mg PSA, 50mg C18, 25 mg GCB; 100/pkg	Q-02PCG03
	SelectCore QuEChERS dispersive kit 15mL, 1200mg $MgSO_4$, 400mg PSA, 400mg C18, 200mg GCB; 50/pkg	Q-15PCG02

GC Columns

NanoChrom BP GC Columns

for volatile substances

NanoChrom BP™ GC Columns

NanoChrom BP Column product line includes polysiloxane phases, polyethylene glycol phases, porous-layer-open tubular (PLOT) phases, low column bleed or MS (Mass Spec) grade columns and custom-made columns. NanoChrom BP GC Columns are designed to achieve low detection limits for analyzing light gases, solvents, environmental, forensic, and food applications.

Main Features

- Easy transfer from one brand to another
- Excellent column inertness
- High column efficiency
- Reliable results

NanoChrom BP GC Columns

Wall Coated Open Tubular Columns

Polysiloxanes

Non-Polar	Weak-Polar	Mid-Polar
Compounds with notably different boiling points	Compounds containing benzene rings	O-containing compounds & Isomers
BP-1 BP-1MS BP-1HT BP-1MS-INERT BP-XLB	BP-5 BP-5MS BP-5HT BP-5MS-INERT BP-Vamine	BP-624 BP-624-INERT BP-VMS BP-1701 BP-1701MS BP-1301 BP-35MS BP-35MS-INERT BP-50+MS BP-50HT BP-225MS

PEG

Polar
Compounds with significant polarity differences
BP-Inowax BP-Inowax-MS BP-Inowax-INERT BP-FFAP BP-CarboWax 20M BP-Wax-AQ BP-FAMEWax

Porous Layer Open Tubular Columns

Crosslinked Polymer	Molecular Sieve Zeolite, 5A	Modified Porous Silica Layer	Aluminum Oxide
HC stream, O-compounds, inorg gases, halo-HCs	Fixed gases and fixed gases from HC stream, hydrogen isotopes	Impurities (S-compounds) from HC stream/air, halo-HCs	HCs, halo-HCs, CWGases, BTEX
BP-PLOT Q BP-PLOT U	BP-PLOT MoleSieve 5A	BP-GasPro	BP-PLOT Al_2O_3 KCl BP-PLOT Al_2O_3 S BP-PLOT Al_2O_3 M

USP GC Phases

USP Code	Stationary Phase	NanoChrom GC Columns	Temperature Range (℃)	Equivalent GC Columns
G1	Dimethylpolysiloxane, oil	BP-1 BP-1MS BP-1MSInert	-60 to 325/350	HP-1, DB-1, VF-1, Rtx-1, Rxi-1, SP-1, ZB-1 HP-1MS, DB-1MS, CP-Sil 5CB MS, VF-1MS, Rtx-1MS, Rxi-1MS
G2	Dimethylpolysiloxane gum	BP-1 BP-1MS BP-1MSInert	-60 to 325/350	HP-1, DB-1,VF-1, Rtx-1, Rxi-1, SP-1, ZB-1 HP-1MS, DB-1MS, CP-Sil 5CB MS, VF-1MS, Rtx-1MS, Rxi-1MS
G3	50% phenyl 50% methylpolysiloxane	BP-50+ MS	40 to 320/340	DB-17, DB-17MS, HP-50+, CP-Sil 24CB, VF-17MS Rxt-50, Rtx-17
G7	50% cyanopropylmethyl 50% phenylmethylpolysiloxane	BP-225MS	40 to 220/240	DB-225, DB-225MS, Rtx-225
G14	Polyethylene glycol average MW 950-1,050	BP-INOWAX	40 to 260/280	HP-Innowax, DB-Wax, DB-Waxer, CP-Wax 52, VF-Wax Rxt-Stabilwax, Rtx-Wax, Omega-Wax
G15	Polyethylene glycol average MW 3,000-3,700	BP-INOWAX BP-CarboWax20M BP-Wax-AQ	40 to 260/280	HP-Innowax, DB-Wax, DB-Waxer, CP-Wax 52, VF-Wax Rxt-Stabilwax, Rtx-Wax, Omega-Wax, HP-20M, DB-CAM CP-Sil 57Wax
G16	Polyethylene glycol average MW 15,000	BP-INOWAX BP-CarboWax20M BP-Wax-AQ	40 to 200/220	HP-20M, DB-CAM, CP-Sil 57Wax
G17	Poly(75% diphenyl 25% dimethylsiloxane)	BP-50+ MS	40 to 320/340	DB-17, DB-17MS, HP-50+, CP-Sil 24CB, VF-17MS Rxt-50, Rtx-17
G20	Polyethylene glycol average MW 380-420	BP-INOWAX	40 to 260/280	HP-Innowax, DB-Wax, DB-Waxer, CP-Wax 52, VF-Wax Rxt-Stabilwax, Rtx-Wax, Omega-Wax
G25	Polyethylene glycol TPA (Carbowax 20M Terephthalic acid)	BP-FFAP	40 to 260/280	HP-FFAP, DB-FFAP, Rxt-Stabilwa-DA, CP-FFAP
G27	5% phenyl 95% methylpolysiloxane	BP-5 BP-5MS BP-5MSUI	-60 to 325/350	HP-5, DB-5, VF-5MS, Rtx-5, Rxi-5, SP-5, ZB-5 HP-5MS, DB-5MS, CP-Sil 8CB MS, VF-5MS, Rtx-5MS SP-5MS, ZB-5MS
G28	25% phenyl 75% methylpolysiloxane	BP-35MS	40 to 320/340	DB-35, DB-35MS, HP-35, Rtx-35, ZB-35, VF-35
G32	20% phenylmethyl 80% dimethylpolysiloxane	BP-35MS	40 to 320/340	DB-35, DB-35MS, HP-35, Rtx-35, ZB-35, VF-35
G35	Polyethylene glycol & diepoxide esterified with nitroterepthalic acid	BP-FFAP	40 to 260/280	HP-FFAP, DB-FFAP, Rxt-Stabilwa-DA, CP-FFAP
G36	1% vinyle 5% phenylmethylpolysiloxane	BP-5 BP-5MS BP-5MSUI	-60 to 325/350	HP-5, DB-5, VF-5MS, Rtx-5, Rxi-5, SP-5, ZB-5 HP-5MS, DB-5MS, CP-Sil 8CB MS, VF-5MS, Rtx-5MS SP-5MS, ZB-5MS
G38	Phase G1 plus tailing inhibitor	BP-1, BP-1MS	-60 to 325/350	HP-1, DB-1, VF-1, Rtx-1, Rxi-1, SP-1, ZB-1 HP-1MS, DB-1MS, CP-Sil 5CB MS, VF-1MS, Rtx-1MS, Rxi-1MS
G39	Polyethylene glycol average MW 1500	BP-INOWAX	40 to 260/280	HP-Innowax, DB-Wax, DB-Waxer, CP-Wax 52, VF-Wax Rxt-Stabilwax, Rtx-Wax, Omega-Wax
G41	Phenylmethyldimethylsilicone (10% phenyl substituted)	BP-5 BP-5MS BP-5MSUI	-60 to 325/350	HP-5, DB-5, VF-5MS, Rtx-5, Rxi-5, SP-5, ZB-5 HP-5MS, DB-5MS, CP-Sil 8CB MS, VF-5MS, Rtx-5MS Rxi-5MS, SP-5MS, ZB-5MS
G42	35% diphenyl 65% dimethylvinylsiloxane	BP-35MS	40 to 320/340	DB-35, DB-35MS, HP-35, Rtx-35, ZB-35,VF-35
G43	6% cyanopropylphenyl 94% dimethylpolysiloxane	BP-1301 BP-624 BP-VMS Bleed	-20 to 280/300	DB-1301, CP-1301, VF-1301, Rtx-1301 DB-624, DB-VRX, Rtx-624, Rtx-VMS, DB 502.2, VOCCol
G45	Divinylbenzene ethylene glycol dimethacrylate	BP-PLOT U	-80 to 190/200	HP-PLOT U, CP-Porapak U
G46	14% cyanopropylphenyl 86% methylpolysiloxane	BP-1701 BP-1701MS	-20 to 280/300	DB-1701, Rtx-1701, CP-Sil 19CB, VF-1701

ASTM Methods

ASTM Designation	Testing Method	Method Title	Recommended NanoChrom GC Columns	P/N
D1945	GC	Standard test method for the analysis of natural gas	NanoChrom BP-PLOT MoleSieve, 15mx0.53mmx50µm NanoChrom BP-PLOT Q, 15mx0.53mmx30µm	G8453-1550 G8653-1530
D1946	GC	Standard test method for the analysis of reformed gas	NanoChrom BP-PLOT MoleSieve, 15mx0.53mmx50µm NanoChrom BP-PLOT Q, 15mx0.53mmx30µm	G8453-1550 G8653-1530
D1983	GLC of methyl ether	Standard test method for the analysis of fatty acid compositions	NanoChrom BP-INOWAX, 30mx0.25mmx0.25µm	G2025-3002
D2163	GC	Standard test method for the analysis of liquified petroleum gases and propene concentration	NanoChrom BP-PLOT Al_2O_3 “KCl”, 30mx0.53mmx15µm NanoChrom BP-PLOT Al_2O_3 “S”, 50mx0.53mmx15µm	G8153-3015 G8253-3015
D2268	Capillary GC	Standard test method for the analysis of high purity nheptane and iso-octane	NanoChrom BP-1, 60mx0.25mmx0.5µm	G0125-6005
D2306	GC	Standard test method for C8 aromatic hydrocarbons	NanoChrom BP-INOWAX, 60mx0.25mmx0.25µm	G2025-6002
D2426	GC	Standard test method for the butadiene dimer and styrene in butadiene concentration	NanoChrom BP-1, 30mx0.53mmx5.0µm	G0153-3050
D2427	GC	Standard test method for determination of C2 through C5 hydrocarbons in gasoline	NanoChrom BP-1, 30mx0.53mmx5.0µm NanoChrom BP-PLOT Al_2O_3 “M”, 30mx0.53mmx15µm	G0153-3050 G8353-3015
D2504	GC	Standard test method for noncondensable gases in C2 and for lighter hydrocarbon products	NanoChrom BP-PLOT MoleSieve, 30mx0.53mmx50µm	G8453-3050
D2505	GC	Standard test method for other hydrocarbons and carbon dioxide in high-purity ethylene	NanoChrom BP-PLOT GasPro, 60mx0.32mmx5µm	G8532-6005
D2593	GC	Standard test method for butadiene purity and hydrocarbon impurities	NanoChrom BP-PLOT Al_2O_3 “M”, 30mx0.53mmx15µm	G8353-3015
D2712	GC	Standard test method for hydrocarbon traces in concentrated propylene	NanoChrom BP-PLOT Al_2O_3“M”, 50mx0.53mmx15µm	G8353-5015
D2804	GC	Standard test method for the purity of methyl ethyl ketone	NanoChrom BP-INOWAX, 30mx0.53mmx1.0µm	G2053-3010
Extended D2887	GC	Standard test method for analysis of the boiling range distribution of petroleum fractions to C60	NanoChrom BP-1, 10mx0.53mmx0.88µm NanoChrom BP-1, 5mx0.53mmx0.88µm	G0153-1008 G0153-0508
D2908	Aqueous-injection GC	Standard practice for measuring volatile organic matter in water	Contact NanoChrom for recommended VOC columns	
D3054	GC	Standard test method for analysis of cyclohexane	NanoChrom BP-1, 60mx0.32mmx0.5µm	G0132-6005
D3257	GC	Standard test method for the analysis of aromatics in mineral spirits	NanoChrom BP-624, 30mx0.53mmx3.0µm	G6253-3030
D3329	GC	Standard test method for the purity of methyl isobutyl ketone	NanoChrom BP-INOWAX, 30mx0.53mmx1.0µm NanoChrom BP-624, 30mx0.53mmx3.0µm	G2053-3010 G6253-3030
D3432	GC	Standard test method for the analysis of unreacted toluene diisocyanates in urethane prepolymers and coating solutions	NanoChrom BP-1MS, 30mx0.32mmx1.0µm	G1132-3010

ASTM Methods

ASTM Designation	Testing Method	Method Title	Recommended NanoChrom GC Columns	P/N
D3447	GC	Standard test method for the purity of halogentated organic solvents	NanoChrom BP-624, 30mx0.53mmx3.0µm	G6253-3030
D3534	GC	Standard test method for the analysis of PCBs in water	NanoChrom BP-1MS, 30mx0.32mmx1.0µm	G1132-3010
D3545	GC	Standard test method for the analysis of alcohol content and the purity of acetate esters	NanoChrom BP-624, 30mx0.53mmx3.0µm	G6253-3030
D3687	Ativated charcoal tube adsorption method	Standard practice for the analysis of collected organic vapors	NanoChrom BP-INOWAX, 30mx0.53mmx1.0µm	G2053-3010
D3695	Direct aqueous injection GC	Standard test method for the analysis of volatile alcohols in water	NanoChrom BP-INOWAX, 30mx0.53mmx1.0µm	G2053-3010
D3760	GC	Standard test method for the analysis of isopropylbenzene (Cumene)	NanoChrom BP-INOWAX, 60mx0.32mmx0.25µm NanoChrom BP-1, 50mx0.32mmx0.52µm	G2032-6002 G0132-5005
D3797	GC	Standard test method for the analysis of o-xylene	NanoChrom BP-INOWAX, 60mx0.32mmx0.50µm	G2032-6005
D3798	GC	Standard test method for the analysis of p-xylene	NanoChrom BP-INOWAX, 60mx0.32mmx0.50µm	G2032-6005
D3871	Headspace sampling	Standard test method for the analysis of purgeable organic coumpounds in water	NanoChrom BP-624, 30mx0.53mmx3.0µm	G6253-3030
D3893	GC	Standard test method for the purity of methyl amyl ketone and methyl isoamyl ketone	NanoChrom BP-624, 30mx0.53mmx3.0µm	G6253-3030
D3973	GC	Standard test method for the analysis of hydrocarbons with low molecular weights in water	NanoChrom BP-1, 30mx0.53mmx2.65µm	G0153-3026
D4415	GC	Standard test method for the determination of dimers in acrylic acid	NanoChrom BP-FFAP, 30mx0.32mmx0.25µm	G2132-3002
D4424	GC	Standard test method for butylene analyses	NanoChrom BP-PLOT Al_2O_3 "S", 50mx0.53mmx15µm	G8253-5015
D4443	Headspace GC	Standard test method for the residual vinyl chloride monomer content in PPB in vinyl chloride homo- and copolymers	NanoChrom BP-1, 30mx0.53mmx2.65µm	G0153-3026
D4864	GC	Standard test method for the determination of traces of methanol in propylene concentrates	NanoChrom BP-INOWAX, 30mx0.53mmx1.0µm NanoChrom BP-PLOT Q, 30mx0.53mmx30µm	G2053-3010 G8653-3030
D4947	GC	Standard test method for the analysis of chlordane and heptachlor residues in indoor air	NanoChrom BP-5, 30mx0.53mmx1.5µm	G0553-3015
D4961	GC	Standard test method for the analysis of major organic impurities in phenol produced by the cumene process	NanoChrom BP-PLOT Q, 15mx0.53mmx30µm	G8653-1530
D4983	Direct aqueous injection GC	Standard test method for the analysis of cyclohexylanine, morpholine, and diethylaminoethanol in water and condensed steam	NanoChrom BP-5MS, 30mx0.32mmx1.00µm	G1532-3010
D5008	GC	Standard test method for ethyl methyl pentonal content and the purity value of 2-ethylhexanol	NanoChrom BP-1, 15mx0.53mmx5.0µm NanoChrom BP-INOWAX, 30mx0.32mmx0.25µm	G0153-1550 G2032-3002

ASTM Methods

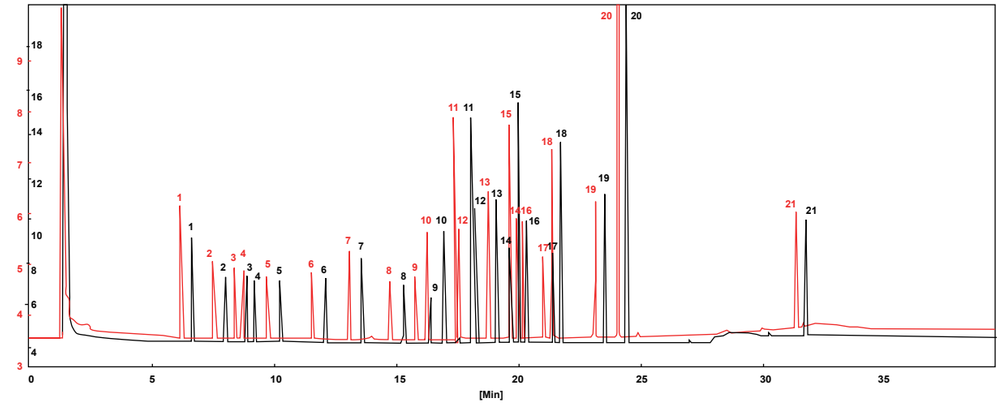
ASTM Designation	Testing Method	Method Title	Recommended NanoChrom GC Columns	P/N
D5060	GC	Standard test method for determining the impurities in high-purity ethylbenzene	NanoChrom BP-INOWAX, 60mx0.32mmx0.5µm	G2032-6005
D5075	GC	Standard test method for the analysis of nicotine in indoor air	NanoChrom BP-5, 30m x0.53mmx1.5µm NanoChrom BP-5, 30mx0.32mmx1.0µm	G0553-3015 G0532-3010
D5135	Capillary GC	Standard test method for the analysis of sryreme	NanoChrom BP-INOWAX, 60mx0.32mmx0.5µm NanoChrom BP-5, 30m x0.53mmx1.5µm NanoChrom BP-5, 30mx0.32mmx1.0µm	G2032-6005 G0553-3015 G0532-3010
D5303	GC	Standard test method for the analysis of carbonyl sulfide in propylene	NanoChrom BP-PLOT GasPro, 30mx0.32mmx5µm	G8532-3005
D5307	GC	Standard test method the determination of the boiling range distribution of crude petroleum	NanoChrom BP-1, 7.5mx0.53mmx5.0µm	G0153-0750
D5310	Capillary GC	Standard test method for the analysis of tar acid composition	NanoChrom BP-5MS, 30mx0.25mmx0.25µm	G1525-3002
D5316	Microex traction and GC	Standard test method for 1, 2-dibromoethane and 1, 2-dibromo-3-chloropropane in water	NanoChrom BP-1MS, 30mx0.32mmx1.0µm NanoChrom BP-PLOT Q, 30mx0.53mmx30µm	G1132-3010 G8653-3030
D5317	GC with an electron capture detector	Standard test method for the determination of chlorinated organic acid compounds in water	NanoChrom BP-5MS, 30mx0.25mmx0.25µm NanoChrom BP-1701, 30mx0.25mmx0.25µm NanoChrom BP-35MS, 30mx0.25mmx0.25µm	G1525-3002 G6125-3002 G3525-3002
D5320	GC	Standard test method for the determination of 1,1-trichloroethane and methylene chloride in stabilized trichloroethylene and tetrachloroethylene	NanoChrom BP-1, 30mx0.53mmx3.0µm NanoChrom BP-624, 30mx0.32mmx1.8µm	G0153-3030 G6232-3018
D5441	GC	Standard test method for the analysis of methyl tert-butyl ether (MTBE)	NanoChrom BP-PLOT Q, 30mx0.53mmx30µm	G8653-3030
D5442	GC	Standard test method for the analysis of petroleum wax	NanoChrom BP-5, 15mx0.25mmx0.25µm	G0525-1502
D5475	GC with a nitrogen phosphorus detector	Standard test method for the analysis of nitrogen and phosphorus-containing pesticides in water	NanoChrom BP-5MS, 30mx0.25mmx0.25µm NanoChrom BP-35MS, 30mx0.25mmx0.25µm NanoChrom BP-1701, 30mx0.25mmx0.25µm	G1525-3002 G3525-3002 G6125-3002
D5501	GC	Standard test method for the determination of ethanol content in denatured fuel ethanol	NanoChrom BP-1, 100mx0.25mmx0.50µm	G0125-A005
D5507	Capillary column/multi dimensional GC	Standard test method for the determination of trace organic impurities in monomer grade vinyl chloride	NanoChrom BP-PLOT Q 15mx0.53mmx30µm NanoChrom BP-PLOT U 30mx0.53mmx20µm	G8653-1530 G8753-3020
D5508	Headspace-capillary GC	Standard test method for the determination of residual acrylonitrile monomers in styrene-acrylonitirle copolymer resins and nitrile-butadiene rubbers	NanoChrom BP-PLOT Q, 30mx0.53mmx30µm	G8653-3030
D5580	GC	Standard test method for the determination of benzene, toluene, ethylbenzene, p/m-xylene, C9, and heavier aromatics, and total aromatics in finished gasoline	NanoChrom BP-1, 30mx0.53 mmx5.0µm	G0153-3050
D5599	GC and oxygenselective flameionization detection	Standard test method for the determination of oxygenates in gasoline	NanoChrom BP-1, 60mx0.25mmx1.0µm	G0125-6010
D5623	GC and sulfur selective detection	Standard test method for analysis of sulfur compounds in light petroleum liquids	NanoChrom BP-1, 30mx0.32mmx4.0µm	G0132-3040

ASTM Methods

ASTM Designation	Testing Method	Method Title	Recommended NanoChrom GC Columns	P/N
D5739	GC and positive ion electron impact low resolution mass spectrometry	Standard practice for oil spill source identification	NanoChrom BP-5, 30mx0.25mmx0.25µm	G0525-3002
D5769	GC/MS	Standard test method for the determination of benzene, toluene, and total aromatics in finished gasoline	NanoChrom BP-1, 60mx0.25mmx1.0µm	G0125-6010
D5790	Capillary column GC/MS	Standard practice for the measurement of purgeable organic compounds in water	NanoChrom BP-624, 30mx0.53mmx3.0µm	G6253-3030
D5812	Capillary column GC	Standard test method the determination of organochlorine pesticides in water	NanoChrom BP-5MS, 30mx0.25mmx0.25µm NanoChrom BP-35MS, 30mx0.25mmx0.25µm NanoChrom BP-1701, 30mx0.25mmx0.25µm	G1525-3002 G3525-3002 G6125-3002
D5917	GC and external-calibration	Standard test method for the analysis of trace impurities in monocyclic aromatic hydrocarbons	NanoChrom BP-INOWAX, 60mx0.32mmx0.25µm	G2032-6002
D5986	GC/FTIR	Standard test method for the determination of oxygenates benzene, toluene, C8-C12 aromatics, and total aromatics in finished gasoline	NanoChrom BP-1, 60mx0.53mmx5.0µm	G0153-6050
D6144	Capillary GC	Standard test method for the analysis of trace impurities in alpha-methylstyrene	NanoChrom BP-1, 60mx0.25mmx1.0µm	G0125-6010
D6159	GC	Standard test method for the determination of hydrocarbon impurities in ethylene	NanoChrom BP-PLOT Al_2O_3"KCl", 50mx0.53mmx15µm NanoChrom BP-PLOT Al_2O_3 "M", 50mx0.53mmx15µm NanoChrom BP-1, 30mx0.53mmx5.0µm	G8153-5015 G8353-5015 G0153-3050
D6160	GC	Standard test method for the determination of PCBs in waste materials	NanoChrom BP-5MS, 30mx0.32mmx0.25µm	G1532-3002
D2360	GC	Standard test method for the analysis of trace impurities in monocylic aromatic hydrocarbons	NanoChrom BP-INOWAX, 60mx0.32mm x0.25µm	G2032-6002
E1616	GC	Standard test method for the analysis of acetic anhydride	NanoChrom BP-1, 50mx0.32mmx0.52µm	G0132-5005
E1863	GC	Standard test method for the analysis of acrylonitrile	NanoChrom BP-INOWAX, 30mx0.32mmx1.0µm NanoChrom BP-PLOT Q, 30mx0.32mmx 15.0µm	G2032-3010 G8632-3015
E202	GC	Standard test method for the analysis of ethylene glycols and propylene glycols	NanoChrom BP-624, 30mx0.53mmx3.0µm	G6253-3030
E475	GC	Standard test method for the assay of di-tert-butyl peroxide	NanoChrom BP-5, 30mx0.53mmx5.0µm	G0553-3050

Applications

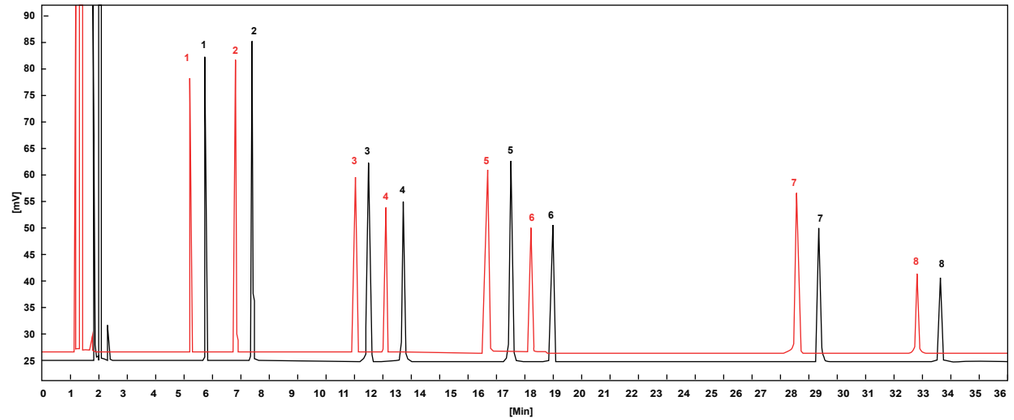
Pesticides, 21 (BP-5MS)



Columns: NanoChrom BP-5MS, 30mx0.25mmx0.25µm (G1525-3002) (red)
Competitor 5MS, 30mx0.25mmx0.25µm (black)

Peaks:
1. 2,4,5,6-Tetrachloro-m-xylene (IS)
2. α-BHC
3. β-BHC
4. γ-BHC
5. δ-BHC
6. Heptachlor
7. Aldrin
8. Heptachlor epoxide
9. γ-Chlordane
10. Endosulfan I
11. α-Chlordane
12. p,p'-DDE
13. Endrin
14. Endosulfan II
15. p,p'-DDD
16. Endrin aldehyde
17. Endosulfan sulfate
18. p,p'-DDT
19. Endrin ketone
20. Methoxychlor
21. Decachlorobiphenyl (IS)

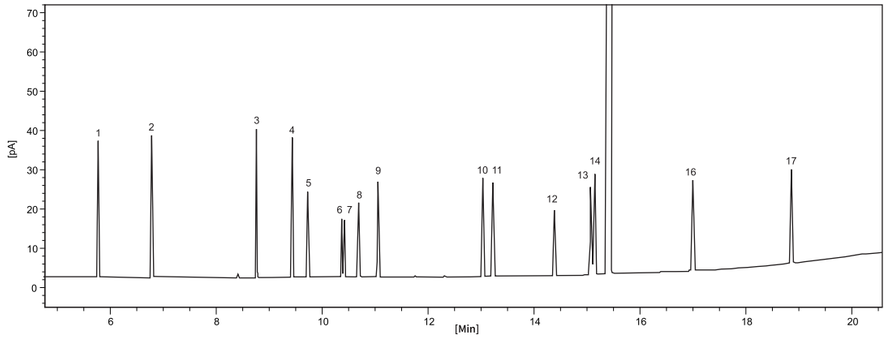
Standard test sample (BP-INOWAX)



Columns: NanoChrom BP-INOWAX, 30mx0.25mmx0.25µm (G2025-3002) (red)
Competitor INNowax, 30mx0.25mmx0.25µm (black)

Peaks:
1. Pentadecane
2. N-octanol
3. Acetophenone
4. Methyl undecanoate
5. N-sunflower alcohol
6. Octadecane
7. 2.4-dimethylaniline
8. 2.6-dimethylphenol

Phthalate esters (NanoChrom BP-5MS)

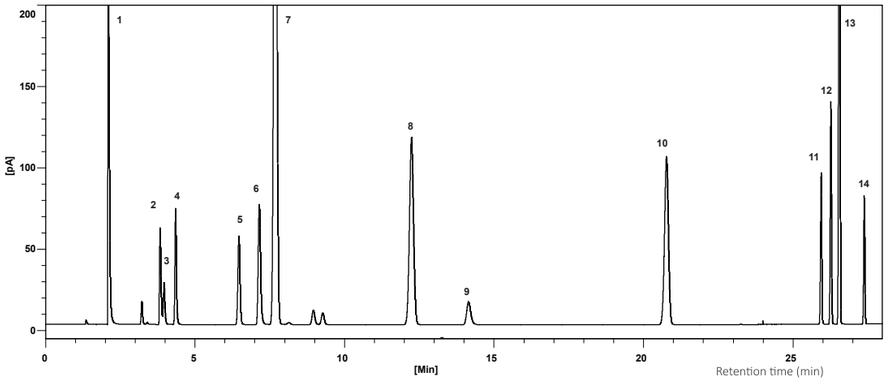


Column: NanoChrom BP-5MS
Dimension: 30mx0.25mmx0.25μm
Carrier: Hydrogen, flow 1.5 mL/min
Inlet: Split, 275°C, split flow 60 mL/min
Oven: 80 °C (hold 0.5 min) to 160 °C at 30 °C/min, to 240 °C (hold 2 min) at 15 °C /min to 320 °C(hold 1 min) at 8 °C/min.
Inject Volume: EPA 8061 standard 1 μL
Detector: FID 325 °C

Peaks:

1.	Dimethylphthalate	5.799
2.	Diethylphthalate	6.807
3.	Phthalic acid diisobutyl ester	8.791
4.	Di-n-butylphthalate	9.462
5.	Bis(2-methoxyethyl)phthalate	9.753
6.	Bis(4-methyl-2-pentyl) phthalate isomer	10.403
7.	Bis(4-methyl-2-pentyl)phthalate	10.435
8.	Bis(2-ethoxyethyl)phthalate	10.711
9.	Diamyl phthalate	11.078
10.	Di-n-hexyl phthalate	13.046
11.	Benzyl butyl phthalate	13.241
12.	Bis(2-n-butoxyethyl)phthalate	14.400
13.	Phthalic acid dicyclohexyl ester	15.088
14.	Bis(2-ethylhexyl)phthalate	15.155
15.	Dipentylphthalate	15.445
16.	Di-n-octyl phthalate	17.005
17.	Di-nonyl phthalate	18.863

Residual solvent (NanoChrom BP-624)

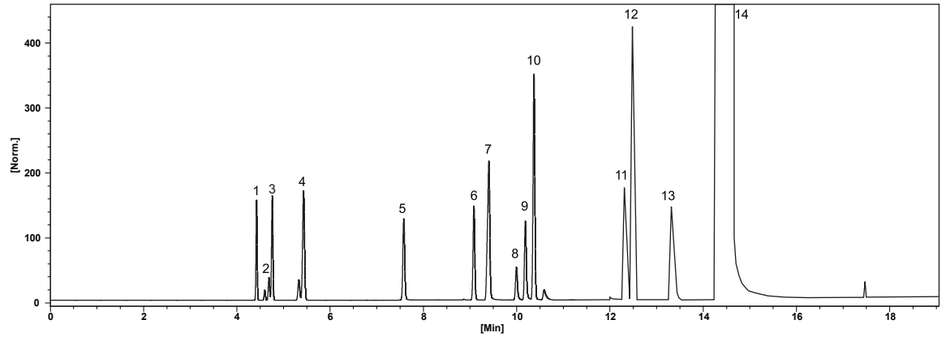


Column: Nanochrom BP-624
Dimension: 30mx0.32mmx1.80μm
Carrier: Hydrogen, flow 2.3 mL/min
Inlet: Split, 260 °C, split flow 60 mL/min
Oven: 40 °C (hold 20 min) to 240 °C (hold 20 min) at 10 °C /min
Sample: USP class 2 residual solvent mixture A
Detector: FID 280 °C

Peaks:

1.	Methanol	2.094
2.	Acetonitrile	3.825
3.	Dichloromethane	3.959
4.	trans-1,2-Dichloroethene	4.343
5.	cis-1,2-Dichloroethene	6.459
6.	Tetrahydrofuran	7.143
7.	Cyclohexane	7.678
8.	Methylcyclohexane	12.235
9.	1,4-Dioxane	14.138
10.	Toluene	20.760
11.	Chlorobenzene	25.932
12.	Ethyl benzene	26.256
13.	m-Xylene / p-Xylene	26.541
14.	o-Xylene	27.371

Hydrocarbons and benzene series in gasoline (NanoChrom BP-FFAP)

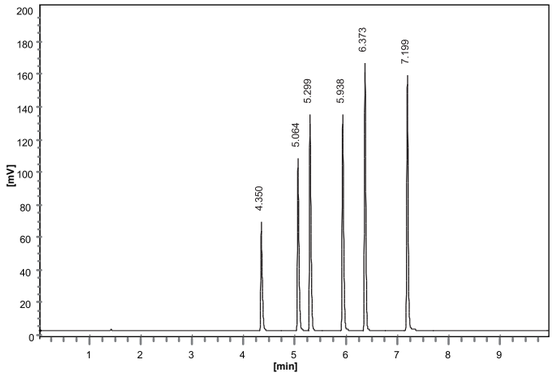


Column: NanoChrom BP-FFAP
Dimension: 60mx0.32mmx0.50μm
Carrier: Hydrogen, 1.3 mL/min (Constant Flow)
Inlet: Split, 240 °C, Split flow 50 mL/min
Oven: 45 °C (hold 5 min) to 120 °C (hold 1 min) at 5 °C/min
Inject Volume: 0.1 μL
Detector: FID 260 °C

Peaks:

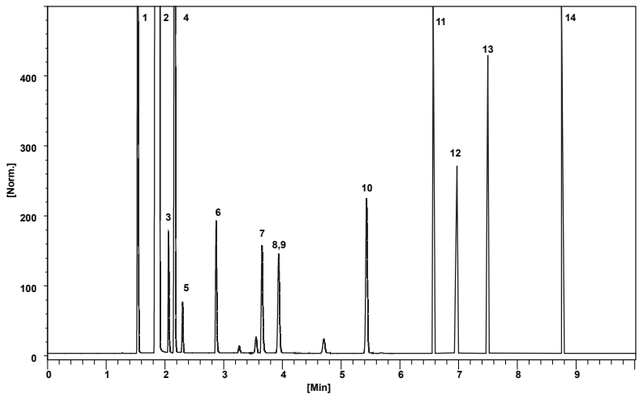
1.	Pentane	4.420
2.	Hexane	4.685
3.	Tert-butyl methyl ether (MTBE)	4.755
4.	Acetone	5.427
5.	Ethyl acetate	7.575
6.	2-Butanone	9.079
7.	Methanol	9.400
8.	Isopropanol	9.991
9.	Ethanol	10.183
10.	Benzene	10.367
11.	1-propanol	12.334
12.	Toluene	12.494
13.	Iso-butanol	13.321
14.	1-Butanol	14.595

Volatile fatty acids and phenols (NanoChrom BP-FFAP)



Column: NanoChrom BP-FFAP
Dimension: 30mx0.53mmx0.5μm
Carrier: H_2 Head Pressure: 4 psi
Inlet: Split, 240 °C, split flow 50 mL/min
Oven: 80 °C (hold 1 min) to 120 °C at 6 °C/min to 205 °C (hold 2 min) at 6 °C/min
Inject Volume: 1 μL
Detector: FID 260 °C
Peaks:
1. Acetic acid
2. Propionic acid
3. Isobutyric acid
4. Butyric acid
5. Isovaleric acid
6. Valeric acid

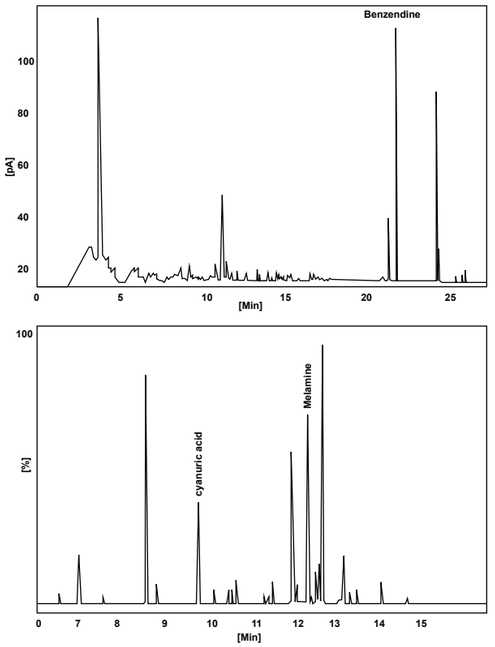
Fusel alcohol products (NanoChrom BP-BioEtOH)

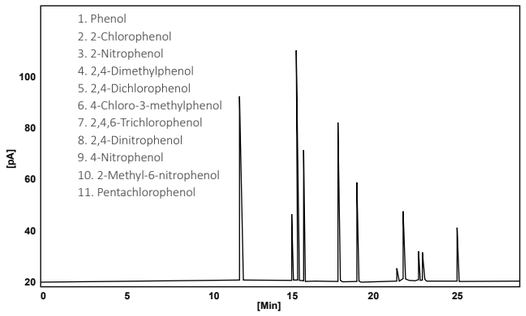


Column: NanoChrom BP-BioEtOH
Dimension: 30mx0.25mmx1.00µm
Carrier: Hydrogen, flow 1.5 mL/min
Inlet: Split, 275 °C, split ratio 30:1
Oven: 40 °C (hold 5 min) to 300 °C (hold 1 min) at 25 °C/min
Inject volume: 0.1 µL
Detector: FID 325 °C
Peaks:
1. Methanol
2. Ethanol
3. Acetone
4. Isopropyl alcohol
5. Pentane
6. N-Propanol
7. 2-Butanol
8. Ethyl acetate
9. Hexane
10. Benzene
11. Heptane
12. Acetal
13. Toluene
14. Xylene

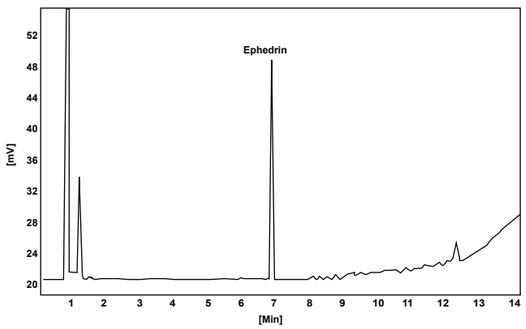
Separation of complex samples (BP-5MS)

Demonstrate excellent column inertness of NanoChrom BP-5MS column both benzendine and pentachloropenol show symmetric and sharp peak shapes even at low levels of 1 ppm sample introduction. Because of the high degree of column inertness, while other suppliers use thicker film thickness (0.5 µm), NanoChrom BP-5MS columns use 0.25 µm film thickness to achieve the same performance with faster analysis time.



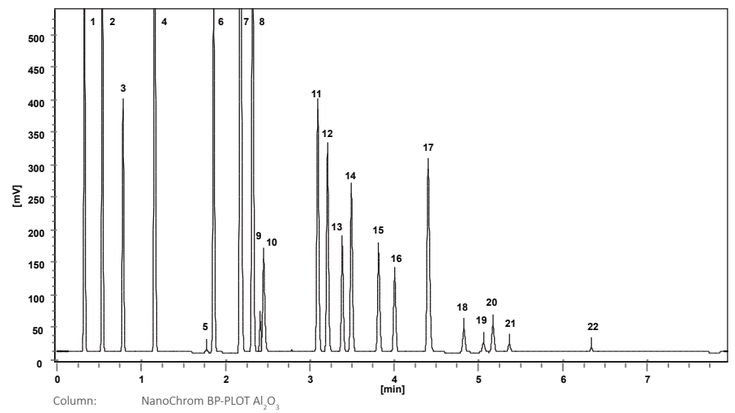


Analysis of a baby formula spiked with 10 ppm Melamine on NanoChrom BP-5MS column by GC/MS.
Column: NanoChrom BP-5MS, 30mx0.25mmx0.25µm (P/N G1525-3002)
Oven:75 °C (hold 1min), 5 °C/min to 300 °C (hold 5 min).
Sample: 10 ppm spiking melamine in baby formula, TMS derivative



BP-5MS Column was used to detect low levels of ephedrine used by athletes.

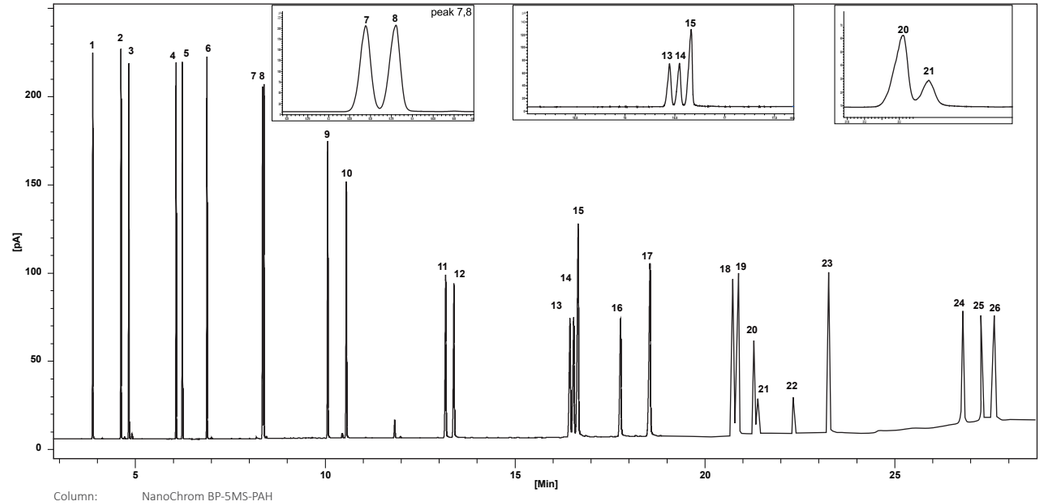
Refined gas (NanoChrom BP-PLOT Al_2O_3)



Peaks:
1. Methane
2. Ethane
3. Ethylene
4. Propane
5. Cyclopropane
6. Propylene
7. Isobutane
8. N-butane
9. Propylene diene
10. Acetylene
11. Trans-2-butene
12. N-butene
13. Isobutene
14. Cis-2-butene
15. Isopentane
16. N-pentane
17. 1,3-butadiene
18. Propargyne
19. Trans-2-pentene
20. N-pentene
21. Cis-2-pentene
22. N-hexane

Column: NanoChrom BP-PLOT Al_2O_3
Dimension: 30mx0.53mmx15µm
Carrier: Hydrogen, Head Pressure, 5 psi
Inlet: Split, 200 °C, Split flow 60 mL/min
Oven: 65 °C to 150 °C at 35 °C/min to 200 °C (hold 1 min) at 10 °C/min
Sample: Refined gas
Detector: FID 200 °C

26 PAHs (NanoChrom BP-5MS-PAH)



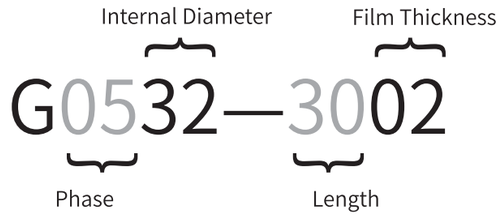
Column: NanoChrom BP-5MS-PAH
Dimension: 30mx0.25mmx0.25µm
Carrier: Hydrogen, column flow 1.2 mL/min
Inlet: Split, 275 °C, Split flow 50 mL/min
Oven: 100 °C (hold 1 min) to 280 °C at 15 °C/min to 340 °C (hold 10 min) at 5 °C/min
Inject Volume: 1 µL
Detector: FID 350 °C

Peaks:

1.	Naphthalene	3.87	
2.	1-Methylnaphthalene	4.61	
3.	2-Methylnapthalene	4.82	
4.	Acenaphthylene	6.07	
5.	Acenaphthene	6.23	
6.	Fluorene	6.88	
7.	Phenanthrene	8.34	
8.	Anthracene	8.38	
9.	Fluoranthene	10.07	
10.	Pyrene	10.56	
11.	Benzo[a]anthracene	13.17	
12.	Chrysene	13.39	
13.	Benzo[b]fluoranthene	16.45	
14.	Benzo[k]fluoranthene	16.55	
15.	Benzo[j]fluoranthene	16.66	
16.	Benzo[a]pyrene	17.78	
17.	3-Methylcholanthrene	18.56	
18.	Dibenzo[a,h]acridine	20.74	
19.	Dibenzo[a,j]acridine	20.86	
20.	Indeno[1,2,3-cd]pyrene	21.31	
21.	Dibenz[a,h]anthracene	21.38	
22.	Benzo[ghi]perylene	22.33	
23.	7H-Dibenzo[c,g]carbazole	23.25	
24.	Dibenzo[a,e]pyrene	26.81	
25.	Dibenzo[a,i]pyrene	27.30	
26.	Dibenzo[a,h]pyrene	27.60	

Ordering Information

Example: NanoChrom BP-5, 30mx0.32mmx0.25μm



Phase	Code
NanoChrom BP-1	01
NanoChrom BP-1MS	11
NanoChrom BP-5	05
NanoChrom BP-5MS	15
NanoChrom BP-XLB	16
NanoChrom BP-35MS	35
NanoChrom BP-50+MS	50
NanoChrom BP-1301	60
NanoChrom BP-1701	61
NanoChrom BP-624	62
NanoChrom BP-502.2	63
NanoChrom BP-VMS	64
NanoChrom BP-FVOC	65
NanoChrom BP-225	66
NanoChrom BP-FAME	68
NanoChrom BP-INOWAX	20
NanoChrom BP-FFAP	21
NanoChrom BP-Carbowax 20M	22
NanoChrom BP-Inowax-MS	24
NanoChrom BP PLOT Al_2O_3, “KCl”	81
NanoChrom BP PLOT Al_2O_3, “S”	82
NanoChrom BP PLOT Al_2O_3, “M”	83
NanoChrom BP PLOT Molsieve	84
NanoChrom BP PLOT GasPro	85
NanoChrom BP PLOT Q	86
NanoChrom BP PLOT U	87
NanoChrom BP-Blood Alcohol	88

Internal Diameter	Code
0.1 mm	01
0.18 mm	18
0.20 mm	20
0.25 mm	25
0.32 mm	32
0.53 mm	53

Length	Code
5 m	05
10 m	10
15 m	15
25 m	25
30 m	30
50 m	50
60 m	60
75 m	75
100 m	A0
105 m	A5
150 m	5A

Film Thickness	Code
0.1 μm	01
0.15 μm	01
0.25 μm	02
0.33 μm	03
0.5 μm	05
1.0 μm	10
1.5 μm	15
2.65 μm	26
3.0 μm	30
5.0 μm	50

Abbreviation Table

Abbreviation	Full Name
2-AB	2-aminobenzamide
A_A	Peak Area Percentage of Aggregates
AAVs	Adeno-associated Viruses
AC	Affinity Chromatography
ACES	N-(2-Acetamido)-2-aminoethanesulfonic Acid
ADC	Antibody-Drug Conjugates
ADP	Adenosine Diphosphate
AEX	Anion Exchange Chromatography
A_F	Peak Area Percentage of Fragment
AFT	Aflatoxin
A_M	Peak Area Percentage of Monomer
AMP	Adenosine Monophosphate
ASTM	American Society for Testing and Materials
ATP	Adenosine Triphosphate
AV	Adeno Viruses
bp	Base Pair
BSA	Bovine Serum Albumin
BsAb	Bispecific Antibody
BTP	Bis-tris Propane
CAD	Charged Aerosol Detector
ChP	Chinese Pharmacopoeia
circRNA	Circular RNA
CMP	Cytidine Monophosphate
D.I.	Deionized
DAR	Drug-antibody Ratio
DEA	Diethylamine
DNA	Deoxyribonucleic Acid
DON	Deoxynivalenol
DTT	Dithiothreitol
ELSD	Evaporative Light Scattering Detector
Em	Emission Wavelength
EPA	Environmental Protection Agency
EtOH	Ethanol
Ex	Excitation Wavelength
FA	Formic Acid
Fab	Fragment Antigen-binding
FID	Flame Ionization Detector
GC	Gas Chromatography
GCB	Graphitized Carbon Black
GFP	Green Fluorescent Protein
GluHCL	Glucosamine Hydrochloride
GMP	Guanosine Monophosphate

Abbreviation	Full Name
HC	Heavy Chain
HIC	Hydrophobic Interation Chromatography
HILIC	Hydrophilic Interaction Chromatography
HLB	Hydrophilic-lipophilic Balance
HMW	High Molecular Weight
HPLC	High Performance Liquid Chromatography
ICE	Ion Exclusion Chromatography
ID	Inner Diameter
IdeS	Immunoglobulin G-degrading Enzyme of S.pyogenes
IEX	Ion Exchange Chromatography
IgG	Immunoglobulin
IgG1	Immunoglobulin G1
IgG2	Immunoglobulin G2
IgG4	Immunoglobulin G4
IgM	Immunoglobulin M
IMP	Inosine Monophosphate
IPA	Isopropanol
IP-RP	Ion-pair Reversed Phase
LC	Liquid Chromatography
LC	Light Chain
LEC	Ligand Exchange Chromatography
LMW	Low Molecular Weight
LV	Lentivirus
mAb	Monoclonal Antibody
mAbs	Monoclonal Antibodies
MAX	Mixed-mode Strong Anion Exchange
MCX	Mixed-mode Strong Cation Exchange
MeCN	Acetonitrile
MeOH	Methanol
MES	Sodium 2-morpholinoethanesulfonate
mRNA	Messanger RNA
MS	Mass Spectrometry
MTBE	Methyl Tert-butyl Ether
M.W.	Molecular Weight
NAM	Nicotinamide
NMN	Nicotinamide Mononucleotide
NP	Normal Phase
nt	Nucleotide
Oligos	Oligonucleotides
OTA	Ochratoxin
P/V	Peak-to-valley Ratio

Abbreviation Table

Abbreviation	Full Name
P188	Poloxamer 188
PAH	Polycyclic Aromatic Hydrocarbon
PEG	Polyethylene Glycol
PF68	Pluronic F68
PFP	Pentafluorobenzene
PLOT	Porous Layer Open Tubular
PMMA	Polymethyl Methacrylate
PS/DVB	Polystyrene Divinylbenzene
PSA	Primary/Secondary Amine
PVP/DVB	Polyvinylpyrrolidone Divinylbenzene
QE	Q Exactive Orbitrap Mass Spectrometers
QuEChERS	Quick, Easy, Cheap, Effective, Rugged and Safe
R_s	Resolution
rhGH	Recombinant Human Growth Hormone
RID	Refractive Index Detector
RNA	Ribonucleic Acid
RP	Reversed Phase
RPC	Reversed Phase Chromatography
RSD	Relative Standard Deviation
RV	Rabies Virus
S/N	Signal-to-noise Ratio
SAX	Strong Anion Exchange
ScFv	Single-chain Fv Fragments
SCX	Strong Cation Exchange
SEC	Size Exclusion Chromatography
SEM	Scanning Electron Microscope
SFC	Supercritical Fluid Chromatography
SPE	Solid Phase Extraction
SSA	Specific Surface Area
TEA	Triethylamine
TEAA	Triethylamine Acetate
T_f	Tailing Factor
TFA	Trifluoroacetic Acid
t_M	Retention Time of Monomer
TMAC	Tetramethylammonium Chloride
t_R	Retention Time
Tris	Tris(hydroxymethyl)aminomethane
U.S.	United State
UHPLC	Ultra High Performance Liquid Chromatography
UMP	Uridine Monophosphate
USP	US Pharmacopeia
UV	Ultraviolet
WAX	Weak Anion Exchange
WCX	Weak Cation Exchange
ZEA	Zearalenone