Chromatography Consumables

Product Catalog

http://www.nanochrom.com

NanoChrom

NanoChrom Technologies (Suzhou) Co., Ltd

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About Company

NanoChrom™ Technologies (NanoChrom) is a technology-driven company, specialized in the research, development, and manufacturing of chromatography consumables and related applications. We serve customers in many industries including pharmaceutical, biotechnology, food & beverage, environmental, chemical, etc.

NanoChrom offers a comprehensive chromatography consumables portfolio, including ChromCore™ columns for separating small molecules, BioCore™ columns for separating biologics, UniChiral™ columns for separating enantiomers, and SelectCore™ products for sample preparation. We also provide extensive services, including technical training, product support, and custom-made products. We are keen to work with our customers in developing solutions to meet separation challenges.

NanoChrom has a team of world-class experts in chromatography separations, synthetic chemistry, and materials science, who are driven to lead the frontier of separation science and develop innovative products to address separation challenges that our customers face. We also have a highly experienced leadership team with a clear vision and strong commitments to serve our customers.

Vision: Better Separation Through Innovation, Quality and Service

Mission: Become a Trusted Partner and Innovation Leader in Separation

Core Values: Innovation, Quality and Teamwork

Product Portfolio

Bio-Molecules

BioCore™ LC Columns
SEC
WCX, SCX, SAX
HIC
RP
Glycan
Protein A

Small Molecules

ChromCore™ LC Columns
RP: C18, Polar C18, C8, C4, C30
Phenyl, PFP, Biphenyl, Phenyl-Hexyl, Phenyl-Ether
NP: Silica, NH2, CN
HILIC: Diol, Amide, Imidazole
IEC: SCX, SAX
Applicarion-specific

Chiral Compounds

UniChiral® LC Columns
CMD, CMJ, CMS, CMZ
CND, CNJ, CNZ

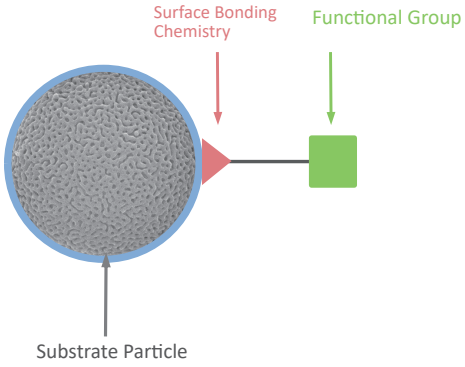
Sample Preparation

SelectCore™ SPE
PVP-DVB: HLB, MAX, MCX, WAX, WCX
PS-DVB: PSL, PSS, PSCX, X3
Silica: C18, PSA, NH_2
Affinity: Heparin, Protein A, Protein G

SelectCore™ QuEChERS

Technology

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



Key Components of Column Chemistry

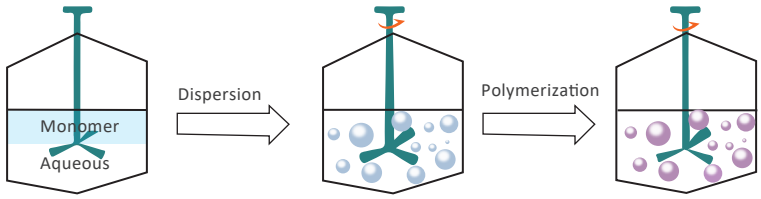
01 Substrate Particle

Substrate particles build the foundation of the mechanical and chemical stability in LC columns. The substrate particles used in NanoChrom's LC columns are based on the latest innovation on particle technology:

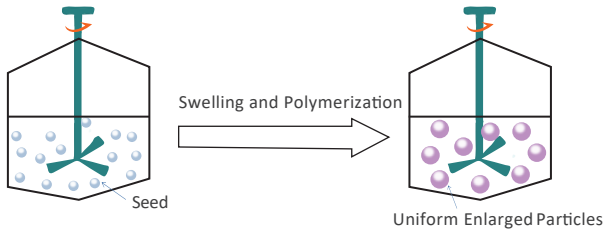
>> UniPS™ Polymer Particle

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 Figures below). 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 columns.

UniPS Polymer Particle Technology

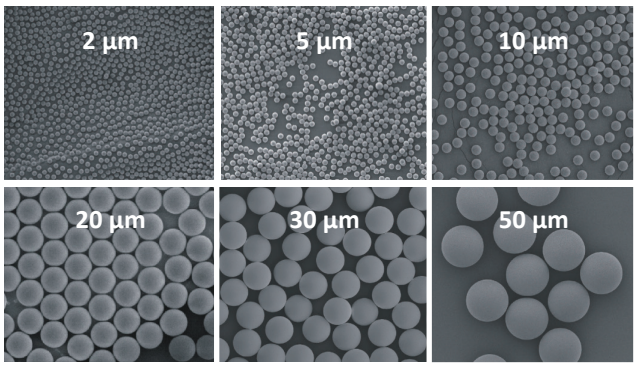


Traditional technology for producing polymer particles with a broad particle size distribution

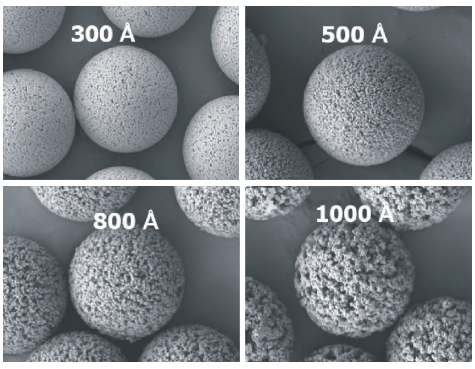


Innovative technology for producing polymer particles with a narrow particle size distribution

SEM Images of UniPS Polymer Particles



UniPS particles with different particle sizes



UniPS particles with different pore sizes

>> UniSil™ Silica Particle

UniSil™ features a family of monodispersed, spherical, silica particles with tightly controlled particle size, pore structure and surface area, manufactured by innovative processes (illustration of the "template" process) at industrial scales. This technology involves three steps:

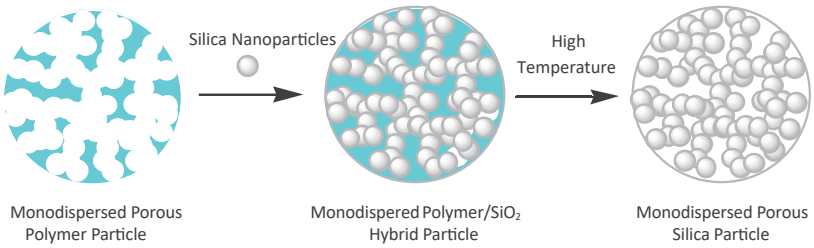
Step 1: forming monodispersed, porous, spherical, polymer particles;

Step 2: using as-made polymer particles as the template, fill the pores with silica nanoparticles to form monodispersed silica/polymer hybrid particles;

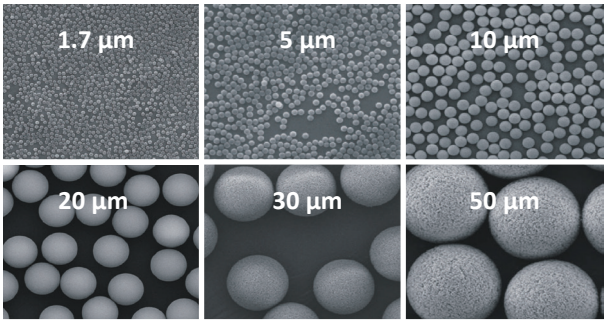
Step 3: treating the "hybrid" particles from **Step 2** at a high temperature to burn off the organic components and form monodispersed, porous, silica particles.

Compared with the silica particles produced by traditional Sol-Gel processes, UniSil particles offer the benefits, including higher column efficiency, higher mechanical strength and improved chemical stability, making them ideal substrates for liquid chromatography columns.

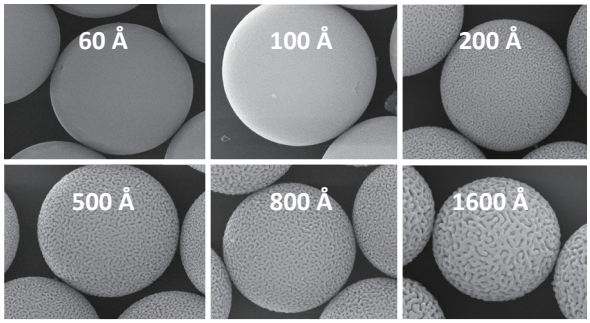
UniSil Silica Particle Technology



SEM Images of UniSil Silica Particles

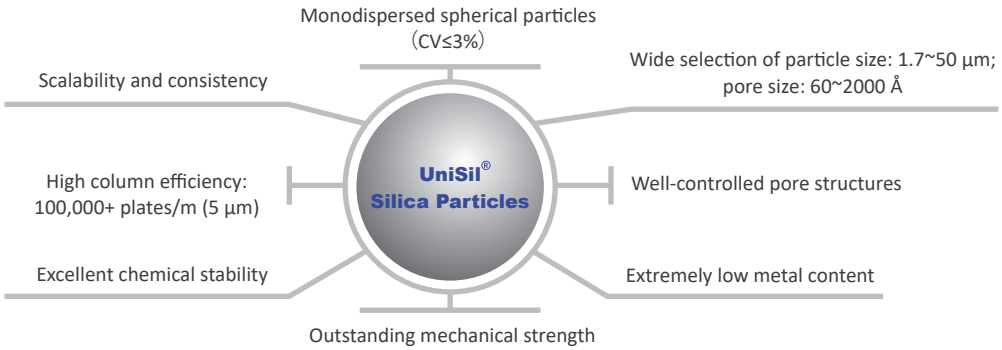


UniSil particles with different particle sizes



UniSil particles with different pore sizes

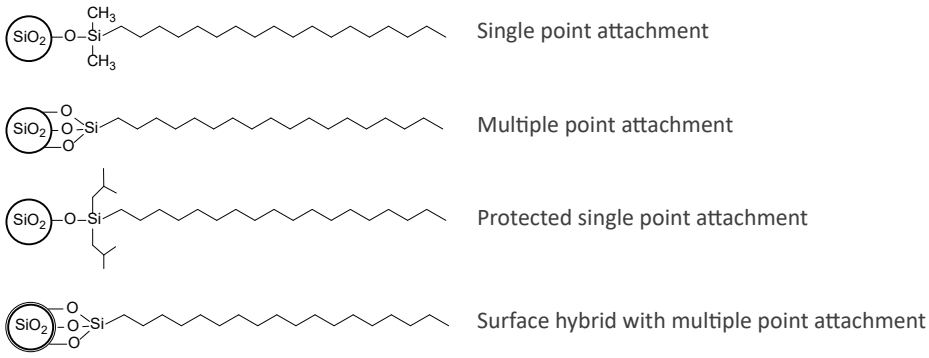
UniSil Silica Particle's Features



02 Surface Bonding Chemistry

The chemistry of a column strongly influences column selectivity, the determining factor in separation.
Two key aspects of column chemistry are its surface bonding chemistry and functional group.
Surface bonding chemistry affects surface coverage and chemical stability. According to specific requirements and/or the intended use, the following types of surface bonding chemistry are adopted in the manufacturing processes of silica-based ChromCore™ columns: single-point Si-O-Si attachment, multiple-point Si-O-Si attachment, sterically hindered single-point Si-O-Si attachment and organo-inorganic hybrid surface combined with multiple-point Si-O-Si attachment. The corresponding features of each bonding type are illustrated.

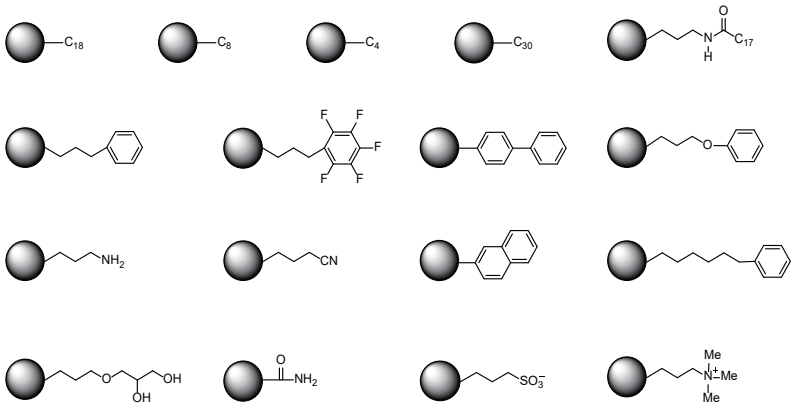
Silica Surface Bonding Chemistry



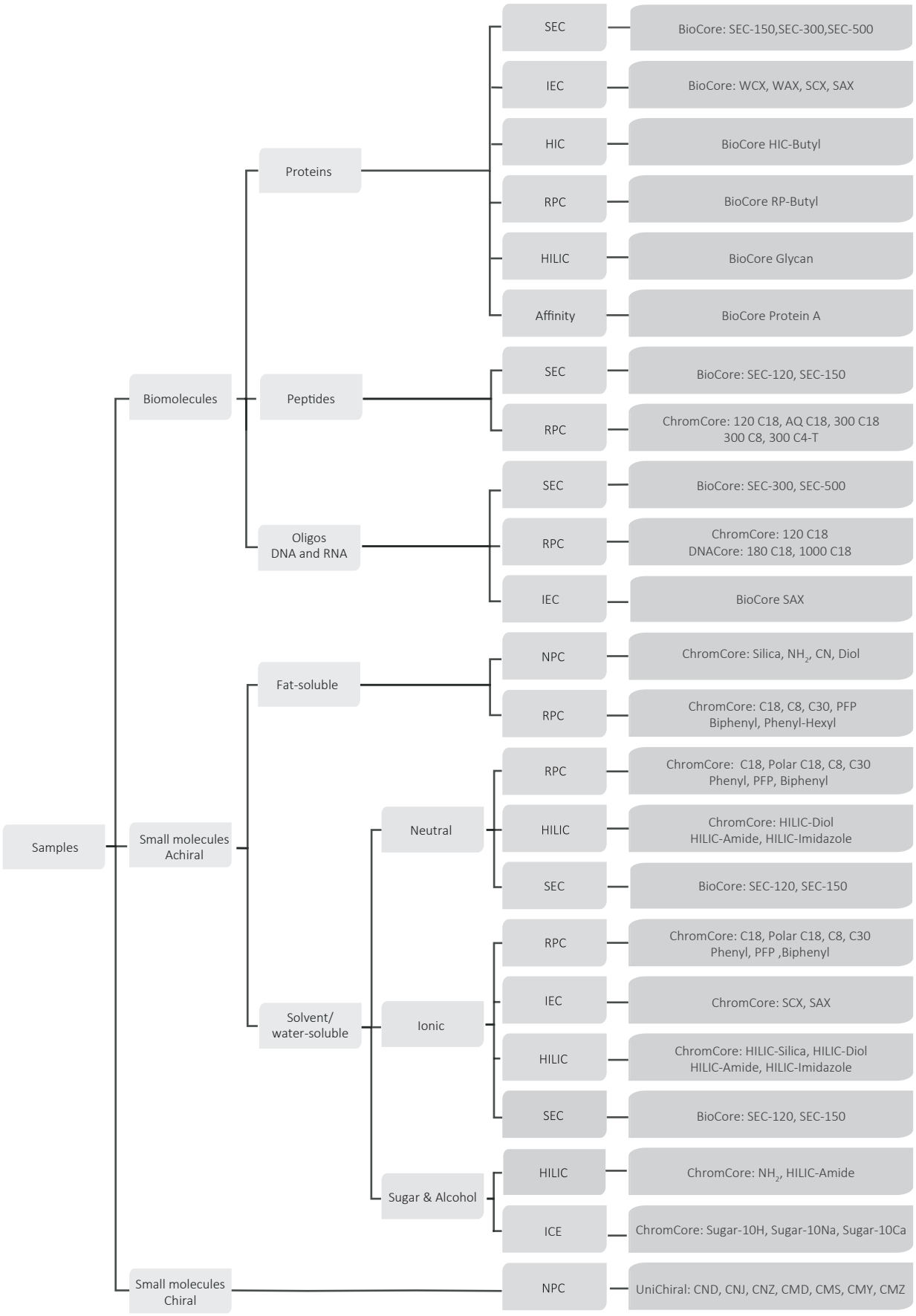
03 Column Functionality

The functional group determines column selectivity. Common functional group classifications 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 has a variety of functionalities that cover a broad range of selectivity.
For biologics like monoclonal antibodies, column chemistry plays a critical role to ensure desired selectivity and to minimize non-specific binding between the substrate and the analytes, For example, BioCore™ bio-separation columns utilize an innovative technology that involves the formation of a neutral hydrophilic layer on the substrate surface, subsequently on which selected functionalities are grafted. In addition to the type of functional group, the amount and distribution of the functional groups also have significant impact on column selectivity and peak symmetry.

Column Functional Groups



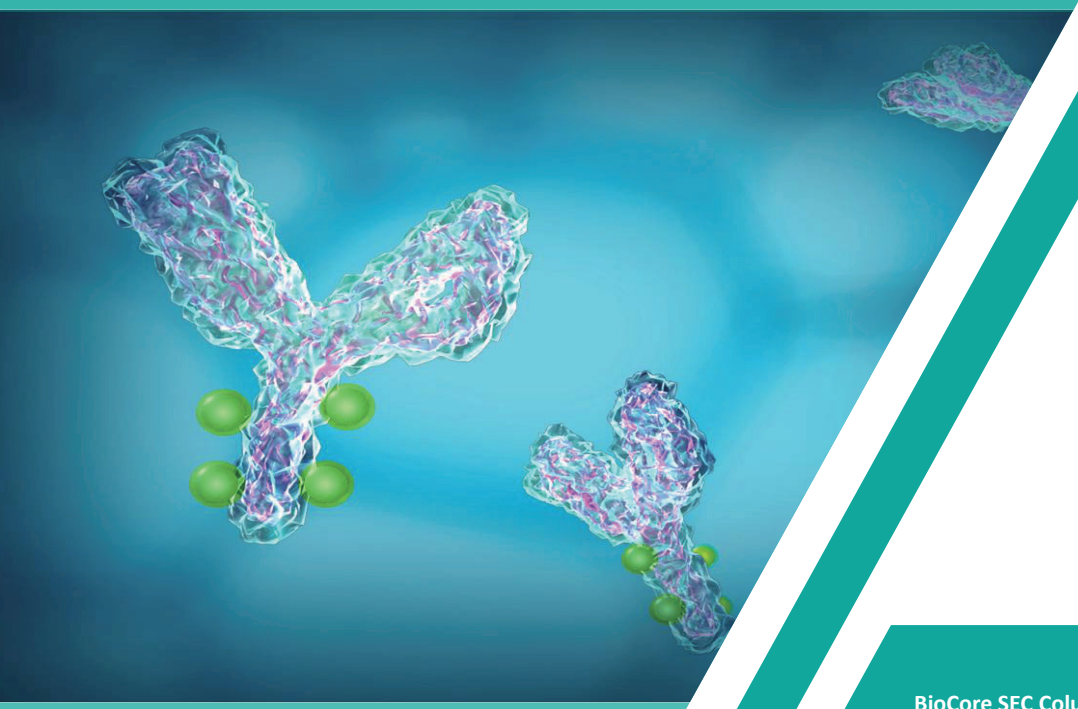
USP Listing	Packing	Brand Name
L1	Octadecyl silane chemically bonded to porous or non-porous silica or ceramic microparticles, 1.5 to 10 µm in diameter, or a monolithic rod	ChromCore 120 C18 ChromCore AQ C18 ChromCore AR C18 ChromCore BR C18 ChromCore 120 C18-T ChromCore 300 C18
L3	Porous silica particles, 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 Phenyl-Hexyl ChromCore Phenyl-Ether ChromCore Biphenyl
L14	Silica gel having a chemically bonded strongly basic quaternary ammonium anion-exchange coating, 5 to 10 µm in diameter	ChromCore 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	ChromCore HILIC-Diol BioCore SEC-120 BioCore SEC-150 BioCore SEC-300 BioCore SEC-500
L26	Butyl silane chemically bonded to totally porous or superficially porous silica particles, 1.5 to 10 µm in diameter	ChromCore C4
L40	Cellulose tris-3,5-dimethylphenylcarbamate coated porous silica particles, 3 µm to 20 µm in diameter	UniChiral CND
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	UniChiral CMD
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	ChromCore HILIC-Amide BioCore Glycan
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 - 20 µ in diameter	UniChiral CNJ
L90	Amylose tris-[(S)-alpha-methylbenzylcarbamate] coated on porous, spherical silica particles, 3 to 10 µm in diameter	UniChiral CMS
L118	Aqueous polymerized C18 groups on silica particles, 1.2 to 5 µm in diameter	ChromCore PAH


Samples
Biomolecules
Proteins
SEC
BioCore: SEC-150,SEC-300,SEC-500
IEC
BioCore: WCX, WAX, SCX, SAX
HIC
BioCore HIC-Butyl
RPC
BioCore RP-Butyl
HILIC
BioCore Glycan
Affinity
BioCore Protein A
Peptides
SEC
BioCore: SEC-120, SEC-150
RPC
ChromCore: 120 C18, AQ C18, 300 C18
300 C8, 300 C4-T
Oligos
DNA and RNA
SEC
BioCore: SEC-300, SEC-500
RPC
ChromCore: 120 C18
DNACore: 180 C18, 1000 C18
IEC
BioCore SAX
Small molecules
Achiral
Fat-soluble
NPC
ChromCore: Silica, NH2, CN, Diol
RPC
ChromCore: C18, C8, C30, PFP
Biphenyl, Phenyl-Hexyl
Solvent/
water-soluble
Neutral
RPC
ChromCore: C18, Polar C18, C8, C30
Phenyl, PFP, Biphenyl
HILIC
ChromCore: HILIC-Diol
HILIC-Amide, HILIC-Imidazole
SEC
BioCore: SEC-120, SEC-150
Ionic
RPC
ChromCore: C18, Polar C18, C8, C30
Phenyl, PFP ,Biphenyl
IEC
ChromCore: SCX, SAX
HILIC
ChromCore: HILIC-Silica, HILIC-Diol
HILIC-Amide, HILIC-Imidazole
SEC
BioCore: SEC-120, SEC-150
Sugar & Alcohol
HILIC
ChromCore: NH2, HILIC-Amide
ICE
ChromCore: Sugar-10H, Sugar-10Na, Sugar-10Ca
Small molecules
Chiral
NPC
UniChiral: CND, CNJ, CNZ, CMD, CMS, CMY, CMZ

NanoChrom

Bio-Separation Columns

BioCore™ HPLC Columns



BioCore SEC Columns	11
BioCore WCX Columns	19
BioCore SCX Columns	22
BioCore SAX Columns	24
BioCore HIC Columns	26
BioCore RP Columns	28
BioCore Glycan Columns	30
BioCore Protein A Columns	31

NANOCHROM

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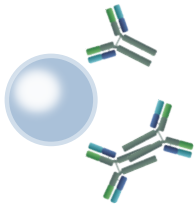
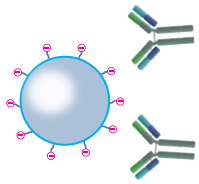
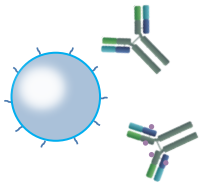
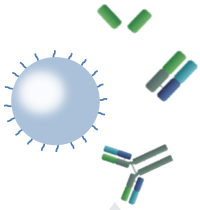
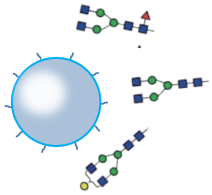
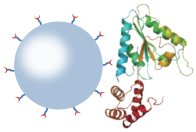
BioCore™ HPLC Columns

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

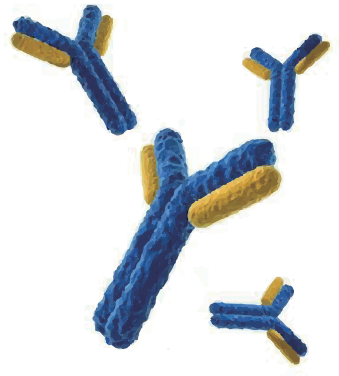
Product Portfolio

	SEC	IEC	HIC
			
Product	BioCore SEC-120 BioCore SEC-150 BioCore SEC-300 BioCore SEC-500	BioCore WCX BioCore SCX BioCore SAX	BioCore HIC
Application	small-molecule drugs, peptides, proteins, oligos, glycans, etc.	charged variants in mAbs, bi-specific antibodies, ADCs and proteins	mAbs 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 a broad range of biomolecules based on size. This column technology involves the creation of a neutral hydrophilic layer on the surface of specially designed, high-strength, monodispersed silica particles, combined with well-established column packing processes. BioCore SEC columns are suited for separating peptides, oligonucleotides, monoclonal antibodies, and related aggregates and fragments, thus have a broad application range in pharmaceutical, biopharmaceutical and academia research.



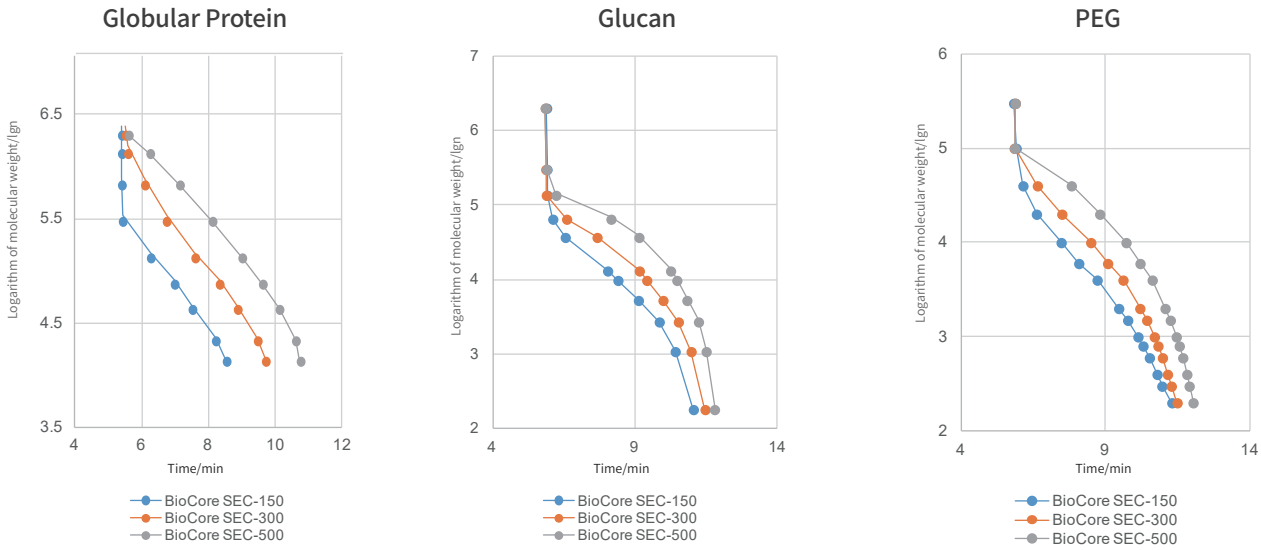
Main Features

- High column efficiency and high resolution
- Minimal undesired interactions between the stationary phase and analytes, resulting in good peak shape and recovery
- High mechanical strength for longer column lifetime
- Broad application range, including small-molecule drugs, peptides, proteins, oligos, glycans, etc.

Specifications

Product Name	SEC-120	SEC-150	SEC-300	SEC-500
Functional Group	Diol			
Substrate	Monodispersed, high pore volume, porous silica particles			
Particle Size	3 & 5 µm			
Pore Size	120 Å	150 Å	300 Å	500 Å
Pressure Limit	>1500 psi for 5 µm, >2500 psi for 3 µm			
Temperature Limit	40 ℃			
pH Range	2-8			
Calibration Curve (PEG)	300-10,000	500-15,000	1,000-50,000	5,000-200,000
Calibration Curve (Glucan)	NA	1,000-30,000	2,000-100,000	20,000-500,000
Calibration Curve (globular protein)	NA	5,000-150,000	10,000-750,000	20,000-1,500,000
Application	Small-molecule drugs, peptides, glycans, small oligos	Small-molecule drugs, peptides, glycans, small oligos and small proteins	mAbs and aggregates	mAbs and high order aggregates, large proteins and large DNA/RNA

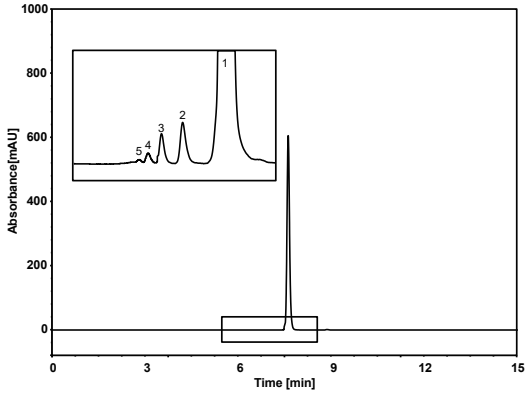
Calibration Curve



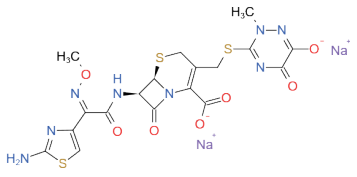
Applications

>> BioCore SEC-120

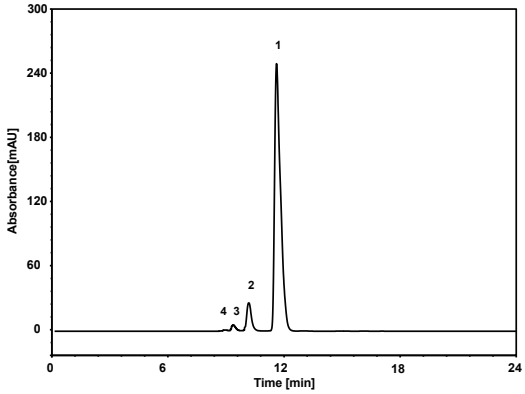
Ceftriaxone Sodium



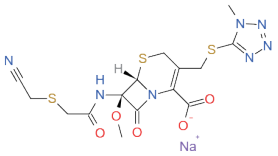
Column: BioCore SEC-120, 5 μm
Dimension: 7.8×300 mm
Mobile Phase: 5mM phosphate buffer, pH7.0
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 2 μL
Detection: UV 231 nm
Peaks: 1. Ceftriaxone
2~5. Polymers of Ceftriaxone



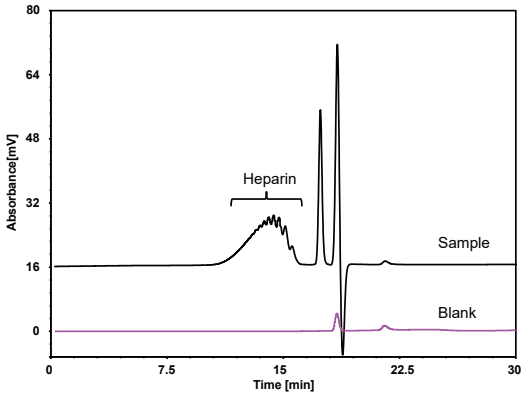
Cefmetazole Sodium



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

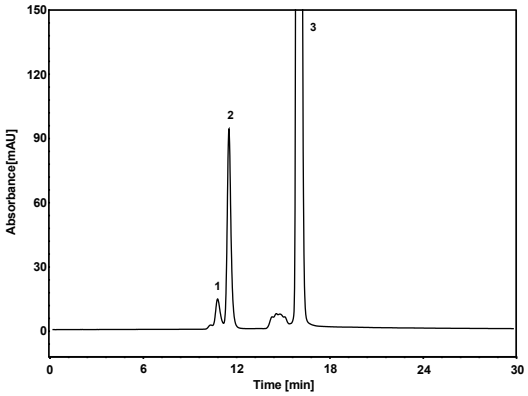


Low Molecular Heparin



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
Peaks: Heparin

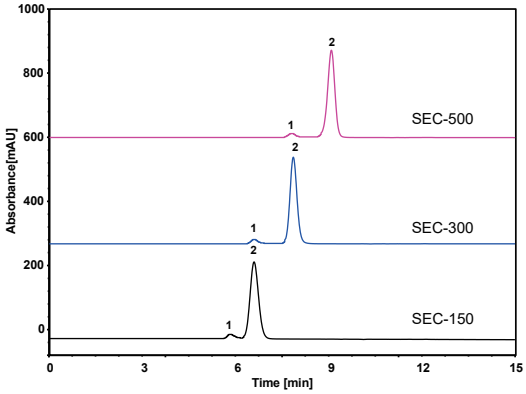
Peptides



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. Polymer of peptide
2. Peptide
3. M-cresol

» BioCore SEC-150

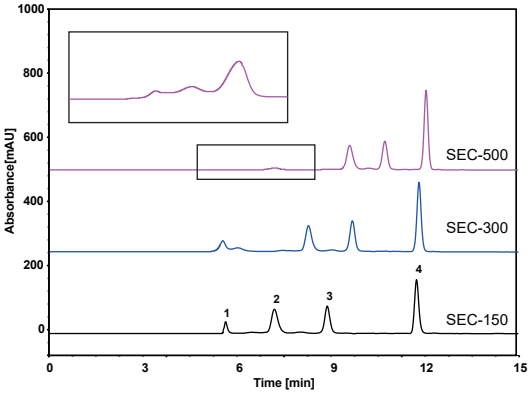
IgG1 and Aggregate



Columns: BioCore SEC-150, 5 μm
BioCore SEC-300, 5 μm
BioCore SEC-500, 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. IgG1 Aggregate
2. IgG1

Column	R.T. (IgG1)	Resolution	Peak Purity (IgG1)
SEC-150	6.606	1.61	94.72 %
SEC-300	7.864	3.03	95.14 %
SEC-500	9.089	2.92	95.14 %

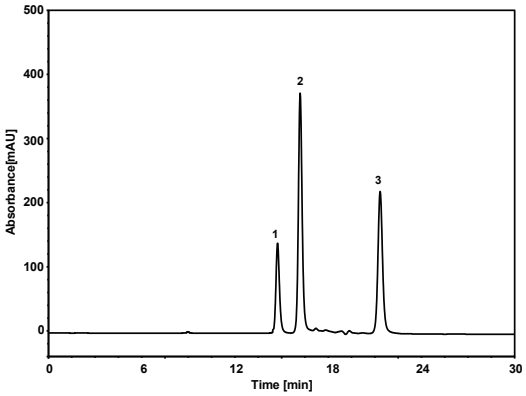
Proteins



Columns: BioCore SEC-150, 5 μm
BioCore SEC-300, 5 μm
BioCore SEC-500, 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
Peaks: 1. Thyroglobulin - 669,000 Da (0.5 mg/mL)
2. Conalbumin - 75,000 Da (1 mg/mL)
3. Ribonuclease A - 13,700 Da (1 mg/mL)
4. Uracil -112 Da (0.1 mg/mL)

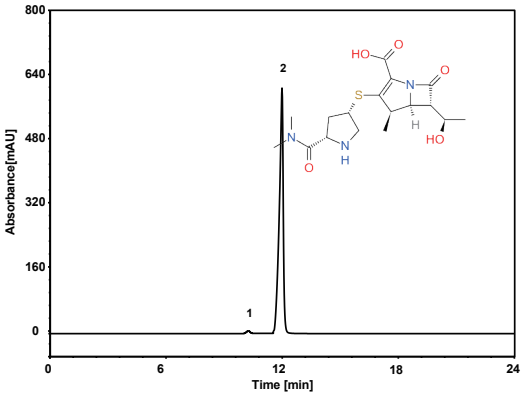
Column	R.T. (1)	R.T. (2)	R.T. (3)	R.T. (4)
SEC-150	5.634	7.192	8.884	11.742
SEC-300	5.547	8.281	9.689	11.822
SEC-500	6.239	9.606	10.739	12.056

Peptides



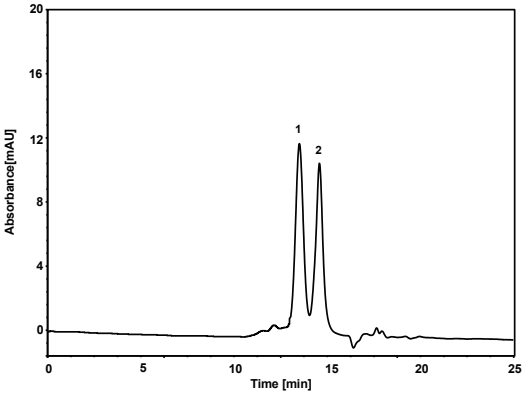
Column:	BioCore SEC-150, 5 μm
Dimension:	7.8×300 mm
Mobile Phase:	90/10 v/v 300 mM NaCl in 50 mM phosphate buffer/MeCN
Flow Rate:	0.6 mL/min
Temperature:	25 ℃
Injection:	10 μL
Detection:	UV 215 nm
Peaks :	1. P-3000
	2. P-2000
	3. P-1000

Meropenem



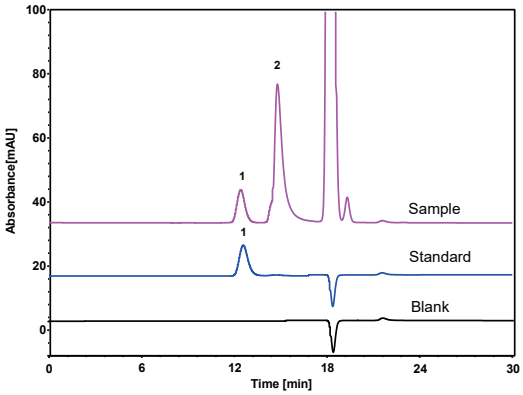
Column:	BioCore SEC-150, 5 μm
Dimension:	7.8×300 mm
Mobile Phase :	95/5 v/v 5 mM phosphate buffer, pH7.0/MeCN
Flow Rate:	0.6 mL/min
Temperature:	25 ℃
Injection:	20 μL
Detection:	UV 254 nm
Peaks:	1. Meropenem Aggregate
	2. Meropenem

ScFv Monomer and Dimer



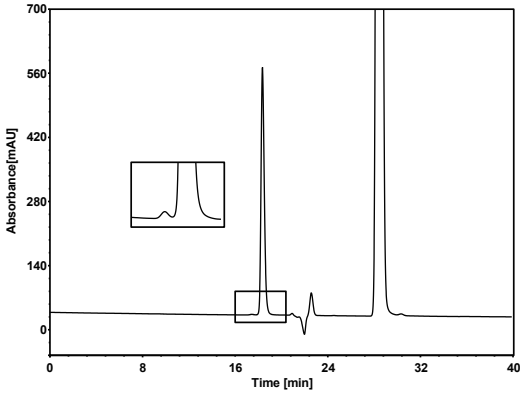
Column:	BioCore SEC-150, 5 μm
Dimension:	7.8×300 mm
Mobile Phase:	90/10 v/v 300 mM NaCl in 50 mM phosphate buffer/ MeCN
Flow Rate:	0.6 mL/min
Temperature:	30 ℃
Injection:	20 μL
Detection:	UV 280 nm
Peaks:	1. ScFv Dimer
	2. ScFv Monomer

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
Peaks:	1. Poloxamer 188 (P188)
	2. Protein

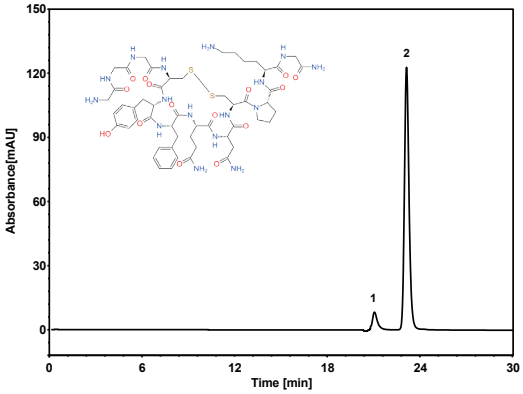
Exenatide Injection



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

R.T. (min)	Peak Area	Peak Height	Theoretical Plate	Tailing Factor	Resolution
18.413	10949957	557185	20924	1.25	1.65

Terlipressin

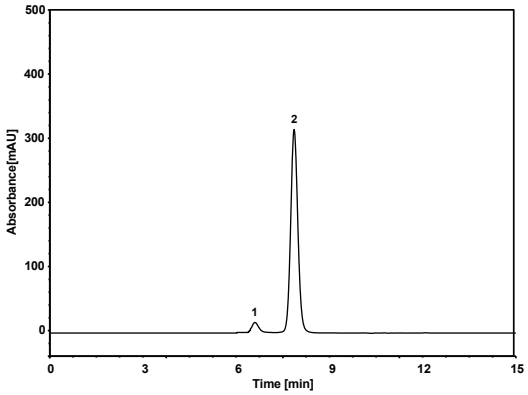


Column: BioCore SEC-150, 5 μm
Dimension: 7.8×300 mm
Mobile Phase: 100 mM Na_2SO_4 in 100 mM phosphate buffer
Flow Rate: 0.5 mL/min
Temperature: 30 ℃
Injection: 10 μL
Detection: UV 274 nm
Peaks: 1. Impurity U
2. Terlipressin

R.T. (min)	Peak Area	Peak Height	Theoretical Plate	Tailing Factor	Resolution
23.080	2593525	126283	29589	1.19	3.63

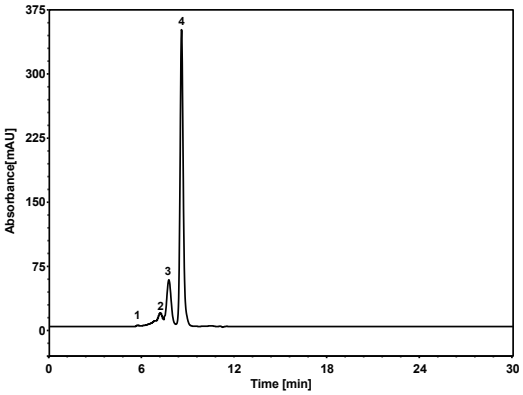
BioCore SEC-300

IgG1 and Aggregate



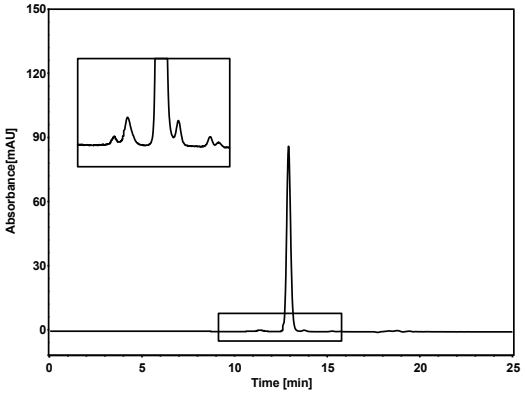
Column: BioCore SEC-300, 5 μm
Dimension: 4.6×300 mm
Mobile Phase: 150 mM phosphate buffer, pH6.8
Flow Rate: 0.35 mL/min
Temperature: 30 ℃
Injection: 5 μL
Detection: UV 280 nm
Sample: IgG1 (2.6 mg/mL in H_2O)
Peaks: 1. IgG1 Aggregate
2. IgG1

Human Serum Albumin



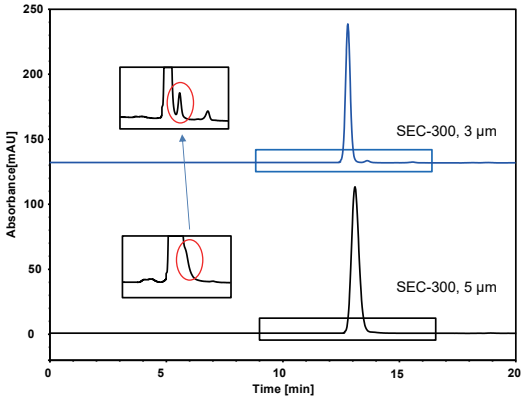
Column: BioCore SEC-300, 5 μm
Dimension: 7.8×300 mm
Mobile Phase : 100 mM phosphate buffer, pH7.0
Flow Rate: 0.7 mL/min
Temperature: 25 ℃
Injection: 10 μL
Detection: UV 280 nm
Peaks: 1-3. Aggregates
4. Human Serum Albumin

NIST RM8671



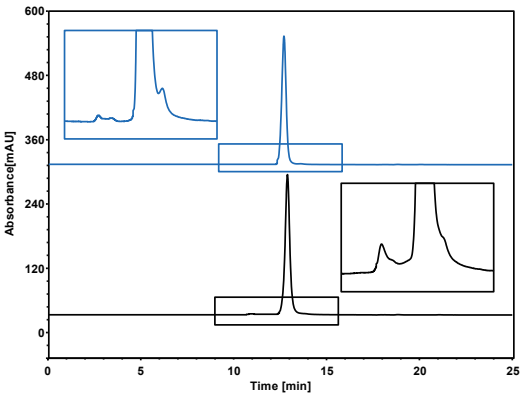
Column: BioCore SEC-300, 3 μm
Dimension: 4.6×300 mm
Mobile Phase: 90/10 v/v 300 mM NaCl in 50 mM phosphate buffer, pH6.8/MeCN
Flow Rate: 0.21 mL/min
Temperature: 30 ℃
Injection: 5 μL
Detection: UV 280 nm
Sample: NISTmAb (1.0 mg/mL)

Monoclonal Antibody



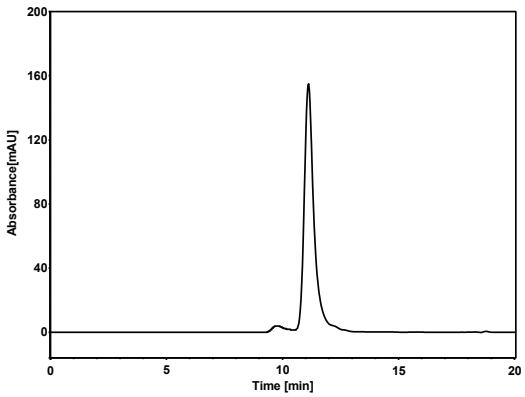
Columns:
Blue: BioCore SEC-300, 3 μm
Black: BioCore SEC-300, 5 μm
Dimension: 4.6×300 mm
Mobile Phase: 300 mM NaCl in 50 mM phosphate buffer, pH6.8
Flow Rate: 0.21 mL/min
Temperature: 30 ℃
Injection: 2 μL
Detection: UV 280 nm
Sample: mAb (10.3 mg/mL)

Antibody-Drug Conjugate (ADC)



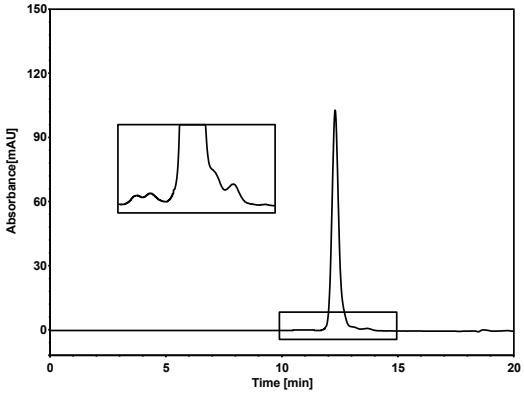
Column: BioCore SEC-300, 3 μm
Dimension: 4.6×300 mm
Mobile Phase:
Blue: 90/10 v/v 300 mM NaCl in 50 mM phosphate buffer, pH6.8/ MeCN
Black: 300 mM NaCl in 50 mM phosphate buffer, pH6.8
Flow Rate: 0.21 mL/min
Temperature: 30 ℃
Injection: 2 μL
Detection: UV 280 nm
Sample: ADC (10.0 mg/mL)

Recombinant Protein



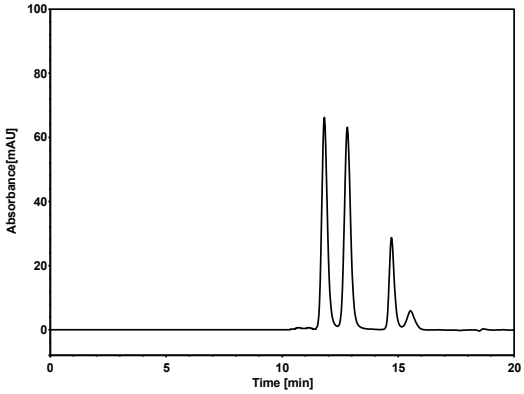
Column: BioCore SEC-300, 3 μm
Dimension: 4.6×300 mm
Mobile Phase: 90/10 v/v 300 mM NaCl in 50 mM phosphate buffer, pH6.8/MeCN
Flow Rate: 0.21 mL/min
Temperature: 30 ℃
Injection: 2 μL
Detection: UV 280 nm
Sample: Recombinant Protein

Bispecific Antibody



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: 2 μL
Detection: UV 280 nm
Sample: Bispecific Antibody (4 mg/mL)

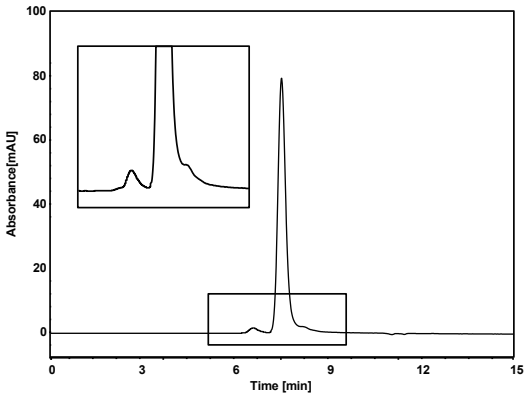
Trispecific Antibody



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: 2 μL
Detection: UV 280 nm
Sample: Trispecific Antibody (5 mg/mL)

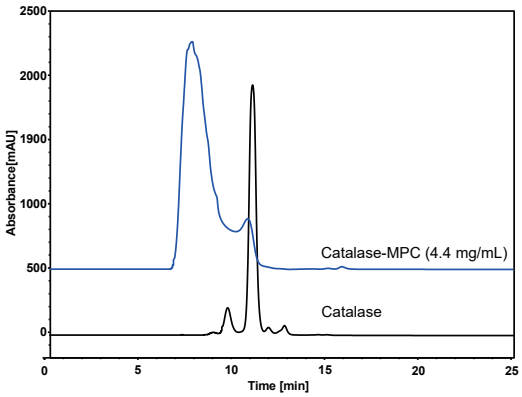
>> BioCore SEC-500

Fusion Protein



Column: BioCore SEC-500, 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: Fusion Protein (1 mg/mL in H_2O)

Catalase and Catalase-MPC Nanocapsules



Column: BioCore SEC-500, 5 μm
Dimension: 7.8×300 mm
Mobile Phase: 150 mM phosphate buffer, pH7.4
Flow Rate: 0.8 mL/min
Temperature: 25 ℃
Injection: 10 μL
Detection: UV 214 nm
Samples: Catalase (M.W.= 300KD)
Catalase-MPC (M.W.= 400~600KD)

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (mm)	
			7.8	4.6
BioCore SEC-120	5	300	B213-050012-07830S	B213-050012-04630S
		150	B213-050012-07815S	B213-050012-04615S
		50	/	B213-050012-04605S
	3	300	B213-030012-07830S	B213-030012-04630S
		150	B213-030012-07815S	B213-030012-04615S
		50	/	B213-030012-04605S
BioCore SEC-150	5	300	B213-050015-07830S	B213-050015-04630S
		150	B213-050015-07815S	B213-050015-04615S
		50	/	B213-050015-04605S
	3	300	B213-030015-07830S	B213-030015-04630S
		150	B213-030015-07815S	B213-030015-04615S
		50	/	B213-030015-04605S
BioCore SEC-300	5	300	B213-050030-07830S	B213-050030-04630S
		150	B213-050030-07815S	B213-050030-04615S
		50	/	B213-050030-04605S
	3	300	B213-030030-07830S	B213-030030-04630S
		150	B213-030030-07815S	B213-030030-04615S
		50	/	B213-030030-04605S
BioCore SEC-500	5	300	B213-050050-07830S	B213-050050-04630S
		150	B213-050050-07815S	B213-050050-04615S
		50	/	B213-050050-04605S
	3	300	B213-030050-07830S	B213-030050-04630S
		150	B213-030050-07815S	B213-030050-04615S
		50	/	B213-030050-04605S

BioCore™ WCX Columns

Description

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, combined with a well-established column packing process.

Main Features

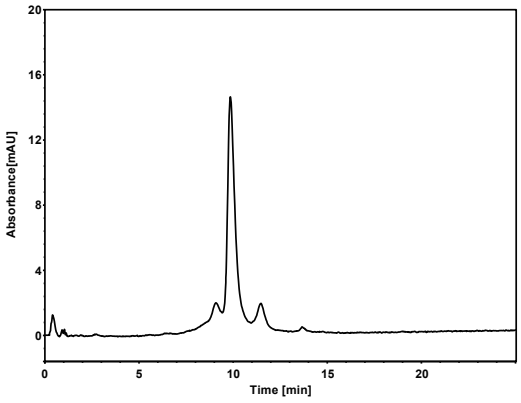
- Optimal selectivity for separating antibody charged variants
- Good peak shape and low carryover
- High column efficiency and mechanical strength
- Excellent tolerance to acids, bases and organic solvents
- Good column-to-column consistency

Specifications

Product Name	BioCore WCX
Functional Group	Carboxylic Acid
Substrate	Monodispersed, spherical PS/DVB particles
Particle Size	5 & 10 µm
Pore Size	Nonporous
Pressure Limit	4500 psi for 10 µm, 5000 psi for 5 µm
Temperature Limit	60 °C
pH Range	2-12

Applications

mAb



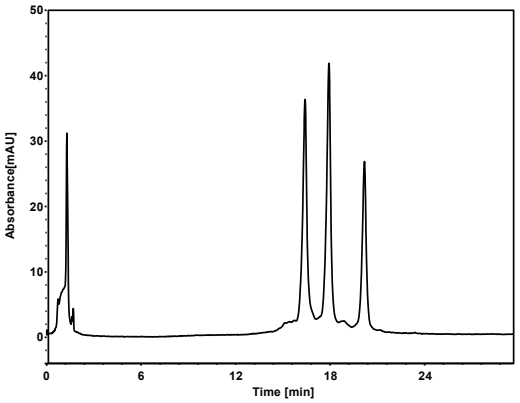
Column: BioCore WCX, 10 µm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM ACES, pH7.0
B) 300 mM NaCl in 20 mM ACES

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 ℃
Injetion: 2 µL
Detection: UV 280 nm
Sample: mAb (5.0 mg/mL in mobile phase A)

IgG1



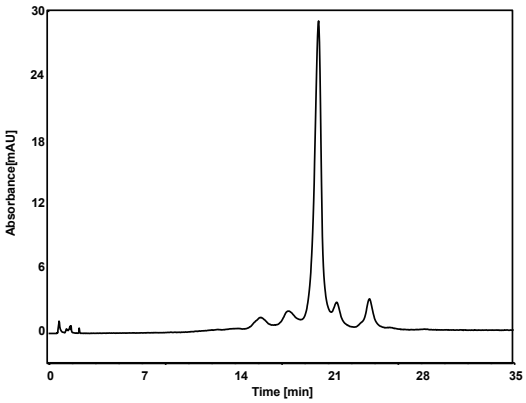
Column: BioCore WCX, 10 μm
Dimension: 4.6×250 mm
Mobile Phase: A) 20 mM MES, pH6.1
B) 200 mM NaCl in 20 mM MES, pH6.1

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



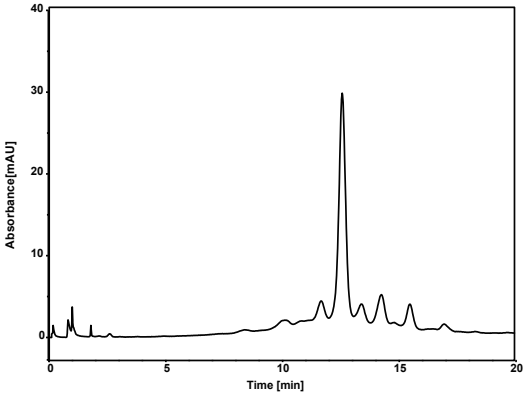
Column: BioCore WCX, 10 μm
Dimension: 4.6×250 mm
Mobile Phase : A) 20 mM MES, pH6.5
B) 150 mM NaCl in 20 mM MES，pH6.5

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



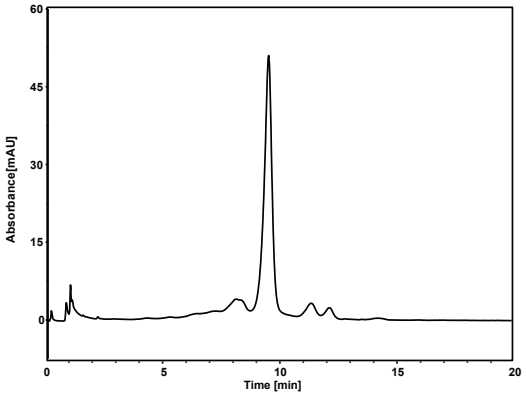
Column: BioCore WCX, 10 μm
Dimension: 4.6×150 mm
Mobile Phase : A) 20 mM phosphate buffer, pH7.0
B) 300 mM NaCl in 20 mM phosphate buffer, pH7.0

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)

IgG4



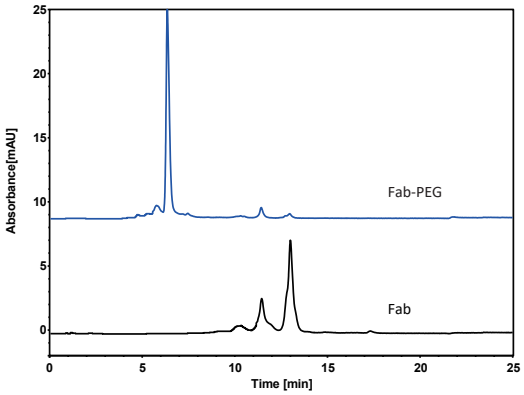
Column: BioCore WCX, 10 μm
Dimension: 4.6×150 mm
Mobile Phase : A) 20 mM phosphate buffer, pH6.5
B) 300 mM NaCl in 20 mM phosphate buffer, pH6.5

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 (1.0 mg/mL in H_2O)

Fab and Fab-PEG



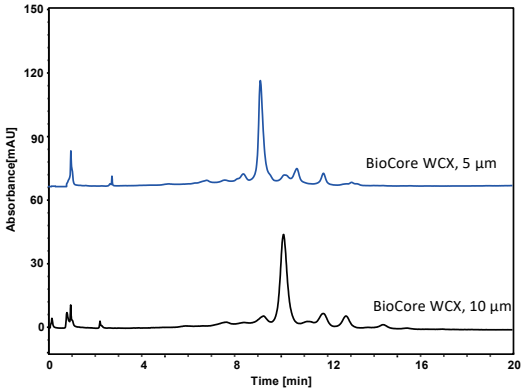
Column: BioCore WCX, 10 μm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM MES, pH5.5
B) 300 mM NaCl in 20 mM MES, pH5.5

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 50mM sodium acetate solution)
Fab (5 mg/mL in 50mM phosphate buffer)

IgG2 Charge Variants



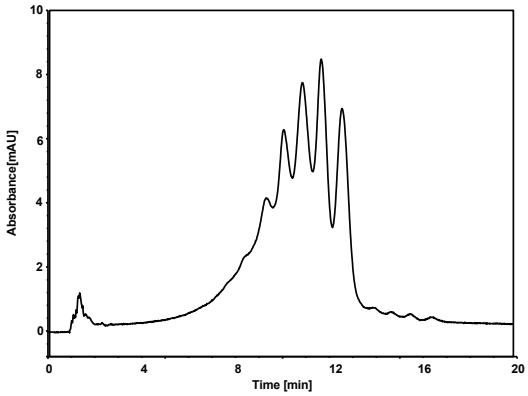
Columns:
Bule: BioCore WCX, 5 μm
Black: BioCore WCX, 10 μm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM phosphate buffer, pH6.5
B) 300 mM NaCl in 20 mM phosphate buffer, pH6.5

Gradient:

t (min)	%A	%B
-15	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)

Bispecific Antibody



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	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 (~5.0 mg/mL in mobile phase A)

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (mm)
			4.6
BioCore WCX	10	250	B311-100000-04625P
		150	B311-100000-04615P
		100	B311-100000-04610P
		50	B311-100000-04605P
	5	250	B311-050000-04625P
		150	B311-050000-04615P
		100	B311-050000-04610P
		50	B311-050000-04605P

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 biomolecules. Its column technology involves the creation of a hydrophilic sulfonic functional layer on the surface of monodispersed, nonporous, spherical PS/DVB particles, combined with a well-established column packing process.

Main Features

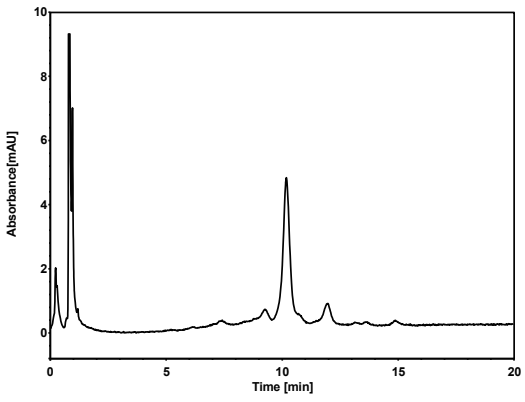
- Optimal selectivity for separating antibody charged variants
- Good peak shape and low carryover
- High column efficiency and mechanical strength
- Excellent tolerance to acids, bases and organic solvents
- Good column-to-column consistency

Specifications

Product Name	BioCore SCX
Functional Group	Sulfonic Acid
Substrate	Monodispersed, spherical PS/DVB particles
Particle Size	5 & 10 µm
Pore Size	Nonporous
Pressure Limit	4500 psi for 10 µm, 5000 psi for 5 µm
Temperature Limit	60 °C
pH Range	2-12

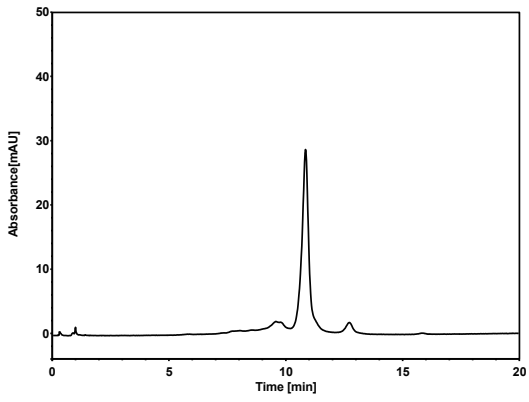
Applications

IgG2



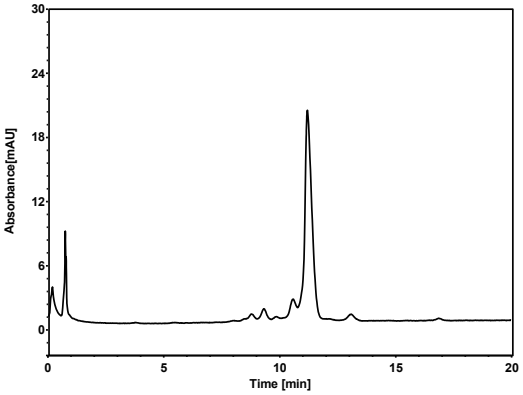
Column:	BioCore SCX, 10 µm		
Dimension:	4.6×150 mm		
Mobile Phase:	A) 20 mM MES, pH6.5		
	B) 300mM NaCl in 20 mM MES, pH6.5		
Gradient:	t(min)	%A	%B
	-15	82	18
	0	82	18
	20	70	30
	20.1	0	100
	23	0	100
Flow Rate:	1.0 mL/min		
Temperature:	30 ℃		
Injection:	10 µL		
Detection:	UV 280 nm		
Sample:	IgG2 (1 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) 300mM 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)		

Fusion Protein

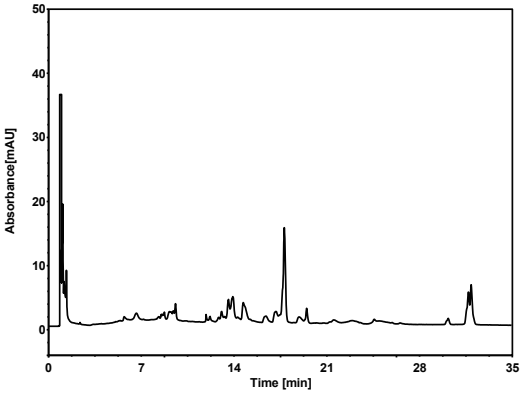


Column: BioCore SCX, 10 μm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM MES, pH6.0
B) 300mM NaCl in 20 mM MES, pH6.0

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)

Snake Venom

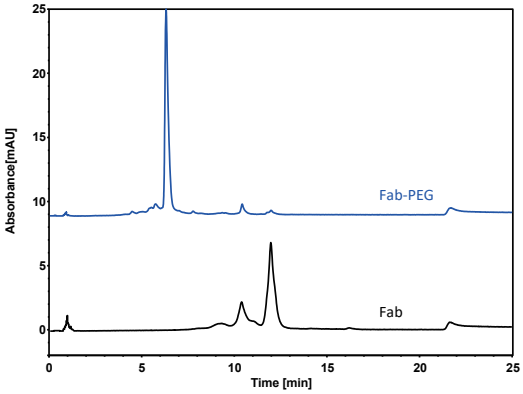


Column: BioCore SCX, 5 μm
Dimension: 4.6×150 mm
Mobile Phase: A) 20 mM Tris-HCl, pH6.0
B) 300 mM NaCl in 20 mM Tris-HCl, pH6.0

Gradient:	t(min)	%A	%B
	-15	100	0
	0	100	0
	30	0	100
	35	0	100

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 10 μL
Detection: UV 280 nm
Sample: Snake Venom (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) 300mM 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 50mM sodium acetate solution)
Fab (5 mg/mL in 50mM phosphate buffer)

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (mm)
			4.6
BioCore SCX	10	250	B411-100000-04625P
		150	B411-100000-04615P
		100	B411-100000-04610P
		50	B411-100000-04605P
	5	250	B411-050000-04625P
		150	B411-050000-04615P
		100	B411-050000-04610P
		50	B411-050000-04605P

BioCore™ SAX Columns

Description

BioCore SAX is a family of high-performance, strong anion-exchange columns designed for separating charged variants in proteins with an isoelectric point below 10. Its column technology involves the creation of a hydrophilic quaternary amino functional layer on the surface of monodispersed, nonporous, spherical PS/DVB particles, combined with a well-established column packing process.

Main Features

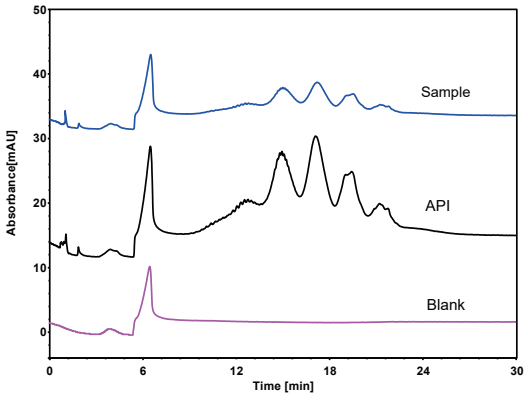
- Optimal selectivity for separating negatively charged variants in proteins
- Good peak shape and low carryover
- High column efficiency and mechanical strength
- Excellent tolerance to acids, bases and organic solvents
- Good column-to-column consistency

Specifications

Product Name	BioCore SAX
Functional Group	Quaternary Ammonium
Substrate	Monodispersed, spherical PS/DVB particles
Particle Size	5 & 10 µm
Pore Size	Nonporous
Pressure Limit	4500 psi for 10 µm, 5000 psi for 5 µm
Temperature Limit	60 °C
pH Range	2-12

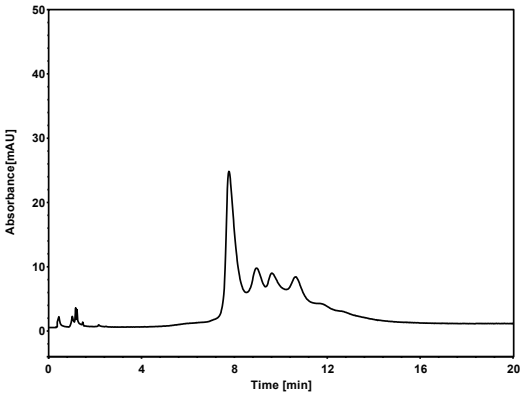
Applications

Glycoprotein



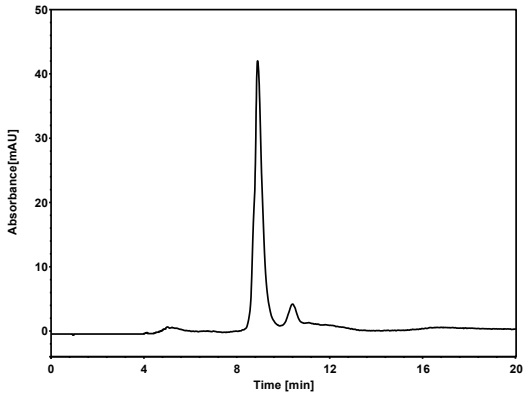
Column:	BioCore SAX, 10 µm		
Dimension:	4.6×250 mm		
Mobile Phase:	A) 20 mM phosphate buffer, pH3.0		
	B) 300 mM NaCl in 20 mM phosphate buffer, pH3.0		
Gradient:	t(min)	%A	%B
	-15	100	0
	0	100	0
	20	0	100
	23	0	100
Flow Rate:	1.0 mL/min		
Injection:	5 µL		
Temperature:	30 ℃		
Detection:	UV 280 nm		
Sample:	API (40 mg/mL in mobile phase A)		
	Injection sample (10 mg/mL)		

Recombinant Fusion Protein



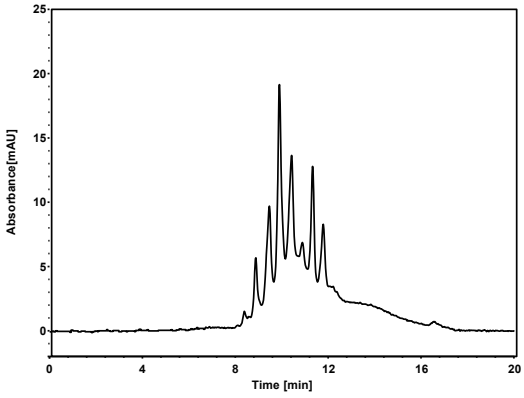
Column:	BioCore SAX, 10 μm		
Dimension:	4.6×150 mm		
Mobile Phase:	A) 20 mM MES, pH6.5		
	B) 300 mM NaCl in 20 mM MES, pH6.5		
Gradient:	t(min)	%A	%B
	-15	70	30
	0	70	30
	20	40	60
	20.1	0	100
	23	0	100
Flow Rate:	0.8 mL/min		
Injection:	10 μL		
Temperature:	20 ℃		
Detection:	UV 280 nm		
Sample:	Recombinant 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
	15.1	0	100
	20	0	100
Flow Rate:	1.0 mL/min		
Injection:	10 μL		
Temperature:	30 ℃		
Detection:	UV 280 nm		
Sample:	BSA (5 mg/mL in H_2O)		

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)		

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (mm)
			4.6
BioCore SAX	10	250	B611-100000-04625P
		150	B611-100000-04615P
		100	B611-100000-04610P
		50	B611-100000-04605P
	5	250	B611-050000-04625P
		150	B611-050000-04615P
		100	B611-050000-04610P
		50	B611-050000-04605P

BioCore™ HIC-Butyl Columns

Hydrophobic Interaction Chromatography (HIC) is suitable for proteins analysis based on the difference in hydrophobicity of the large molecules. In HIC, under high salt concentration, the proteins bind to the solid phase and selectively elute out from the column with decreasing salt concentration. And the elution time of proteins increase as the hydrophobicity increases.

Description

BioCore HIC-Butyl is a family of high-performance, hydrophobic interaction chromatography columns that separate monoclonal antibodies (mAbs) and Antibody-Drug Conjugates (ADCs) based on their differences in surface hydrophobicity. This column technology involves the creation of a hydrophilic layer decorated with selective hydrophobic functionality, on the surface of monodispersed, wide-pore, spherical, silica particles, combined with well-established column packing processes.

Main Features

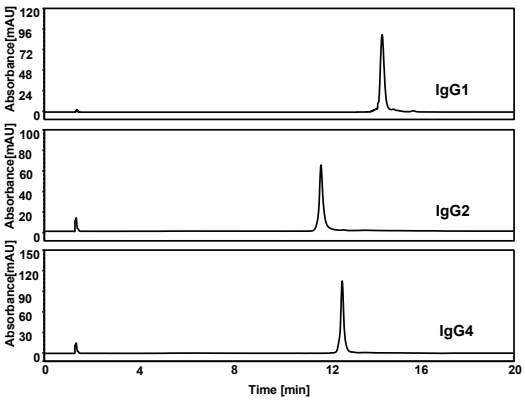
- Optimal selectivity for the DAR analysis in ADCs
- Minimal undesired interactions for low carryover
- High column efficiency
- Excellent mechanical strength for column robustness
- Good column-to-column consistency

Specifications

Product Name	BioCore HIC-Butyl
Functional Group	Butyl
Substrate	Monodispersed, spherical silica particles
Particle Size	5 µm
Pore Size	1000 Å
Pressure Limit	6000 psi
Temperature Limit	60 °C
pH Range	2-8

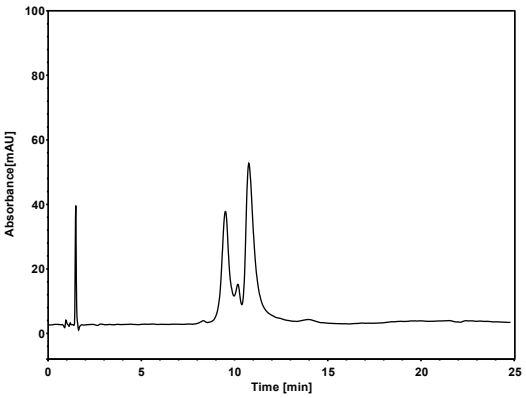
Applications

IgG1, IgG2 and IgG4



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



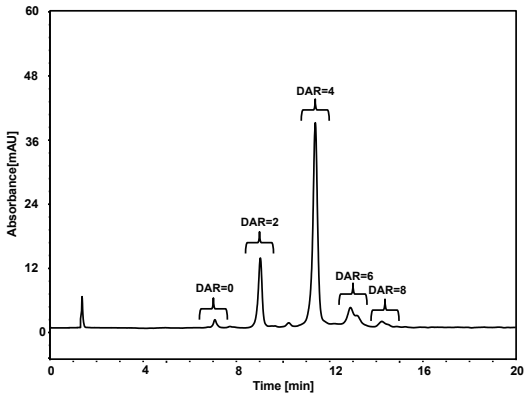
Column: BioCore HIC-Butyl, 5 µm
Dimension: 4.6×100 mm
Mobile Phase: A) 2.0 M $(NH_4)_2SO_4$ in100 mM phosphate buffer, pH7.0
B) 100 mM phosphate buffer, pH7.0
C) Isopropanol

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)

Ordering Information

Product Name	Particle Size (µm)	Length (mm)	ID (mm)
			4.6
BioCore HIC-Butyl	5	250	B713-050100-04625S
		100	B713-050100-04610S
		50	B713-050100-04605S

BioCore™ RP-Butyl Columns

BioCore RP-Butyl is a family of high-performance, reversed-phase columns that separate intact proteins and protein fragments, including monoclonal antibodies (mAbs) and related substances. This column technology involves attaching butyl functionality onto the surface of monodispersed, nonporous, spherical, PS/DVB particles, combined with well-established column packing processes.

Main Features

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

Specifications

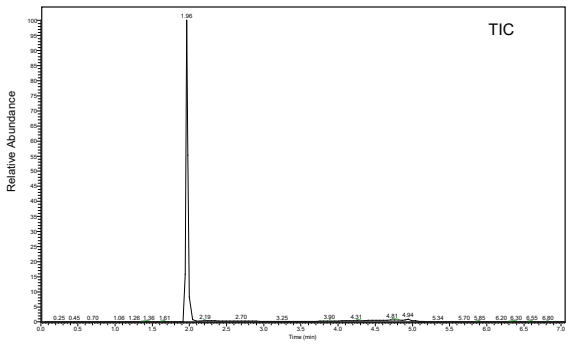
Product Name	BioCore RP-Butyl
Functional Group	Butyl
Substrate	Monodispersed, spherical PS/DVB particles
Particle Size	5 µm
Pore Size	Nonporous
Pressure Limit	4500 psi
Temperature Limit	100 °C
pH Range	2-12

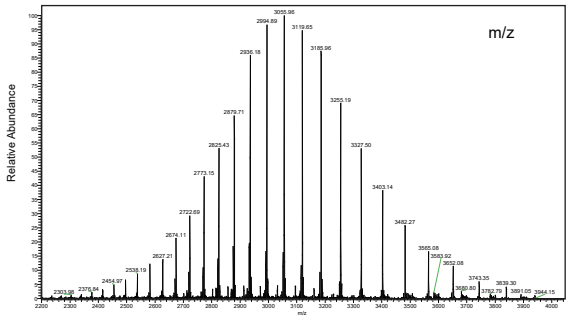
Ordering Information

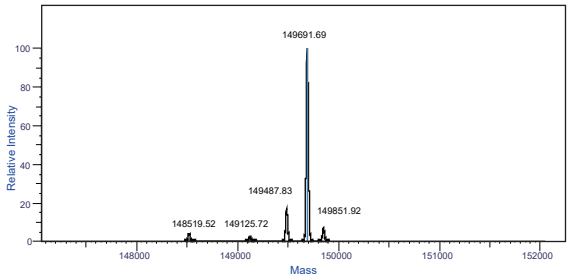
Product Name	Particle Size (µm)	Length (mm)	ID (mm)	ID (mm)	ID (mm)
			4.6	3.0	2.1
BioCore RP-Butyl	5	150	B821-050000-04615S	B821-050000-03015S	B821-050000-02115S
		100	B821-050000-04610S	B821-050000-03010S	B821-050000-02110S
		50	B821-050000-04605S	B821-050000-03005S	B821-050000-02105S

Applications

Monoclonal Antibody

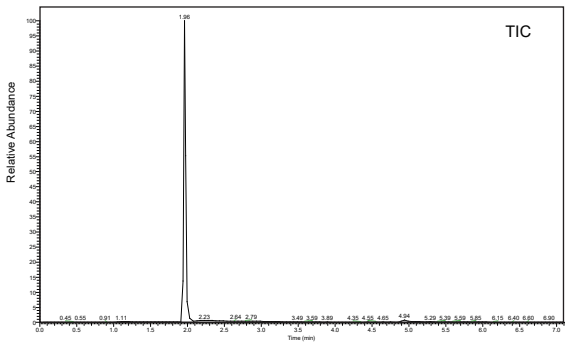


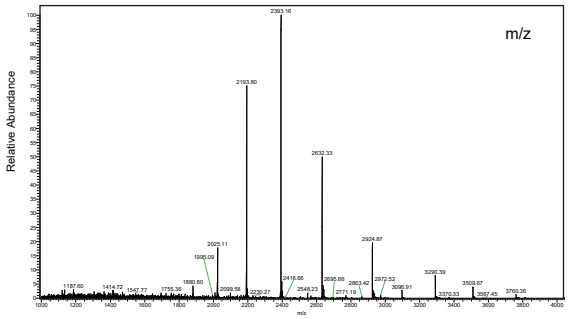


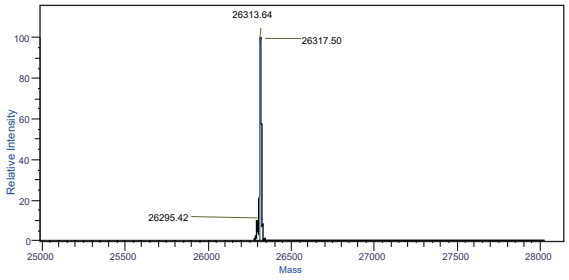


Column:	BioCore RP-Butyl, 5 μm		
Dimension:	3.0×50 mm		
Mobile Phase:	A) 0.1% formic acid in H_2O		
	B) 0.1% formic acid in MeCN		
Gradient:	t(min)	%A	%B
	0	95	5
	1	95	5
	1.1	95	5
	1.2	5	95
	4	5	95
	4.1	95	5
	7	95	5
Flow Rate:	0.6 mL/min		
Temperature:	60 ℃		
Injection:	~1 μg		
Detection:	QE		
Sample:	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	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:	QE		
Sample:	Recombinant Protein		

BioCore™ Glycan Columns

BioCore Glycan is a family of high-performance HILIC columns designed for profiling N-glycans present in proteins and related substances. This column technology involves the creation of a proprietary hydrophilic layer on the surface of monodispersed, spherical, porous silica particles, combined with well-established column packing processes.

Main Features

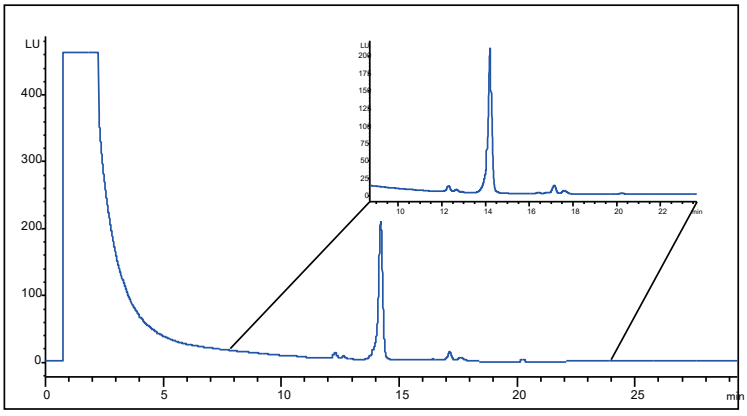
- Desired selectivity for separating fluorescently labeled N-glycans in proteins
- High column efficiency and stability
- MS compatibility
- Good column-to-column consistency

Specifications

Product Name	BioCore Glycan
Functional Group	Amide
Substrate	Monodispersed, spherical silica particles
Particle Size	3 µm
Pore Size	180 Å
Pressure Limit	6000 psi
Temperature Limit	80 °C
pH Range	2-9

Applications

N-Glycans of Avastin



Column:	BioCore Glycan, 3 µm		
Dimension:	3.0×100 mm		
Mobile Phase:	A) 50 mM ammonium acetate solution, pH4.4		
	B) MeCN		
Gradient:	t(min)	%A	%B
	0	25	75
	2	25	75
	37	46	54
	37.1	25	75
	40	25	75
Flow Rate:	0.4 mL/min		
Temperature:	65 ℃		
Injection:	30 µL		
Detection:	Ex/Em= 250 nm/428 nm		
Sample:	2-AB labelled N-Glycans		

Ordering Information

Product Name	Particle Size (µm)	Length (mm)	ID (mm)		
			4.6	3.0	2.1
BioCore Glycan	3	150	B913-030018-04615S	B913-030018-03015S	B913-030018-02115S
		100	B913-030018-04610S	B913-030018-03010S	B913-030018-02110S
		50	B913-030018-04605S	B913-030018-03005S	B913-030018-02105S

BioCore™ Protein A Columns

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

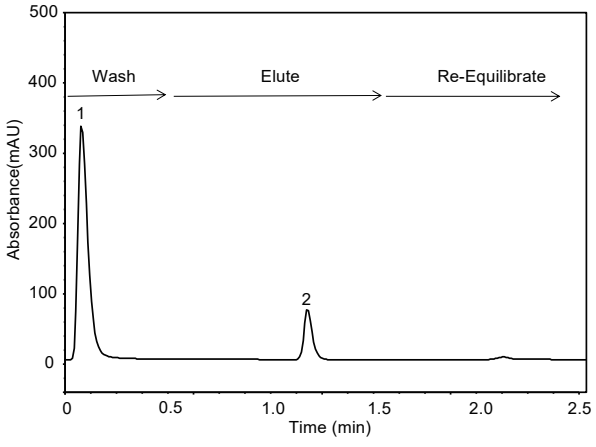
Main Features

- High specificity for efficient capture of a broad selection of antibodies and antibody fragments
- High dynamic binding capacity for 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

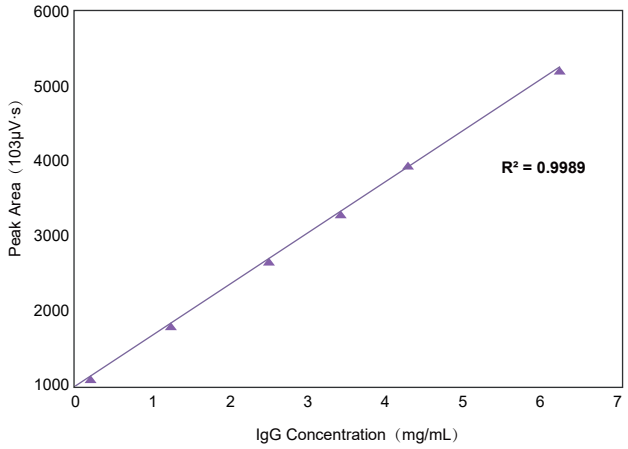
Product Name	BioCore Protein A
Functional Group	pH stable rProtein A
Substrate	Monodispersed, porous, spherical PS/DVB particles
Particle Size	15 µm
Pore Size	1000 Å
Pressure Limit	1450 psi
Temperature Limit	2-40 ℃
pH Range	2-12
Dynamic Binding Capacity	≥20 mg/mL (IgG)
Linear Range (≥0.99)	0-200 µg (2.1X30 mm)
Storage	20% Ethanol (2-8 ℃)

Titer Analysis in HCC



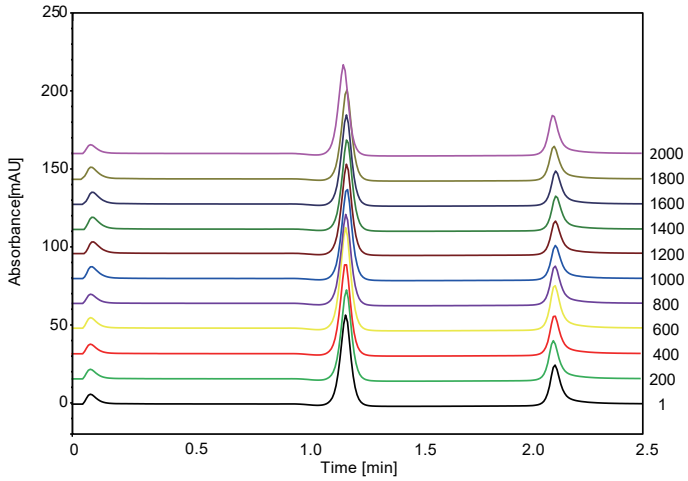
Column:	BioCore Protein A,15 µm		
Dimension:	2.1×30 mm		
Mobile Phase:	A) 150 mM NaCl in 50 mM phosphate buffer, pH7.0		
	B) 150 mM NaCl in 50 mM phosphate buffer, pH2.5		
Gradient:	t(min)	%A	%B
	0	100	0
	0.5	100	0
	0.51	0	100
	1.5	0	100
	1.51	100	0
	2.5	100	0
Flow Rate:	2.0 mL/min		
Temperature:	30 ℃		
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, 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 (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（1.0 mg/mL in H_2O）		

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (mm)	
			4.6	2.1
BioCore Protein A	15	100	B111-150100-04610S	B111-150100-02110S
		50	B111-150100-04605S	B111-150100-02105S
		30	B111-150100-04603S	B111-150100-02103S

NanoChrom

LC Columns

HPLC · UHPLC

ChromCore Reversed-Phase LC Columns	35
ChromCore 300 Å Reversed-Phase LC Columns	70
ChromCore Normal Phase/HILIC LC Columns	73
ChromCore Ion Exchange LC Columns	85
ChromCore Application-Specific Columns	89
ChromCore Sugar Columns	91
ChromCore UHPLC Columns	93
NanoChrom Ghost-Remover Columns	99

NANOCHROM

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, 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 Columns Specifications

Product Name	Particle Size (μm)	Pore Size (Å)	SSA (m^2/g)	Carbon Load (%)	pH	USP Listing
120 C18	1.8, 3, 5	120	300	17	2-10	L1
AQ C18	1.8, 3, 5	180	200	13	2-10	L1
AR C18	3, 5	120	300	12	1-8	L1
BR C18	3, 5	180	150	12	1.5-11	L1
120 C18-T	3, 5	120	300	18	1.5-10	L1
Polar C18	3, 5	120	300	18	2-10	L60
120 C8	1.8, 3, 5	120	300	10	2-10	L7
AQ C8	1.8, 3, 5	180	200	7	2-10	L7
C30	3, 5	180	200	11	2-10	L62
300 C18	3, 5	300	100	9	2-10	L1
300 C8	3, 5	300	100	4.5	2-10	L7
300 C4-T	3, 5	300	100	3	2-9	L26
Phenyl	3, 5	120	300	12	2-8	L11
PFP	3, 5	120	300	10	2-8	L43
Biphenyl	3, 5	120	300	12	2-9	L11
Phenyl-Hexyl	3, 5	120	300	14	2-9	L11
Phenyl-Ether	5	120	300	12	2-9	L11
Silica	3, 5	120	300	0	3-7	L3
NH2	3, 5	120	300	4	2-8	L8
CN	3, 5	120	300	6	2-8	L10
HILIC-Diol	3, 5	120	300	10	2-8	L20
HILIC-Amide	3, 5	120	300	7	2-8	L68
HILIC-Imidazole	3, 5	120	300	5	2-8	/
SCX	3, 5	120	300	3	2-8	L9
300 SCX	3, 5	300	100	3	2-8	L9
SAX	3, 5	120	300	4	2-8	L14

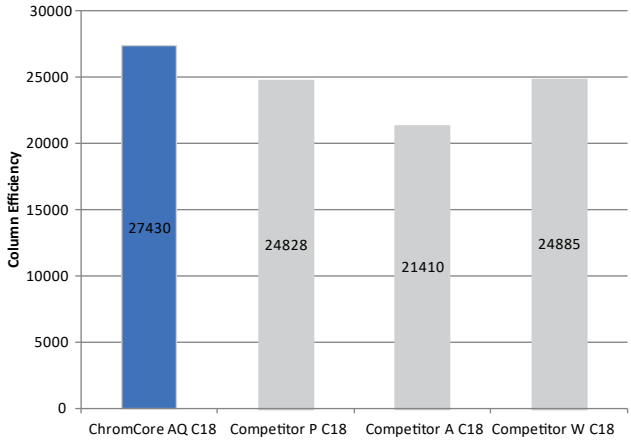
ChromCore™ Reversed-Phase LC Columns

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 mass spectrometry, 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

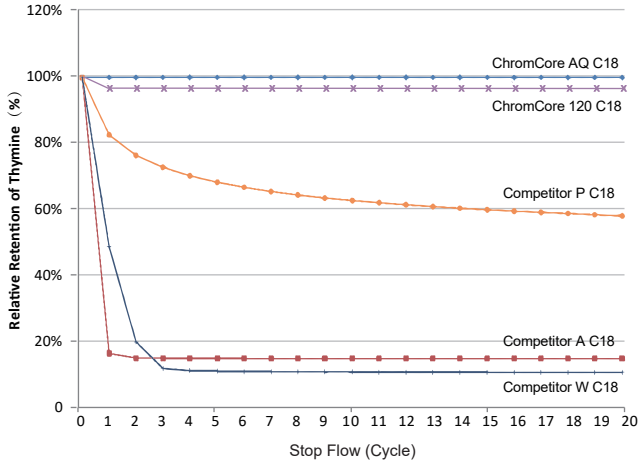
Column Efficiency



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

The combination of advanced monodispersed paticle technology and innovative chemistry leads to higher column efficiency compared to competing products in the market.

Aqueous Compatibility



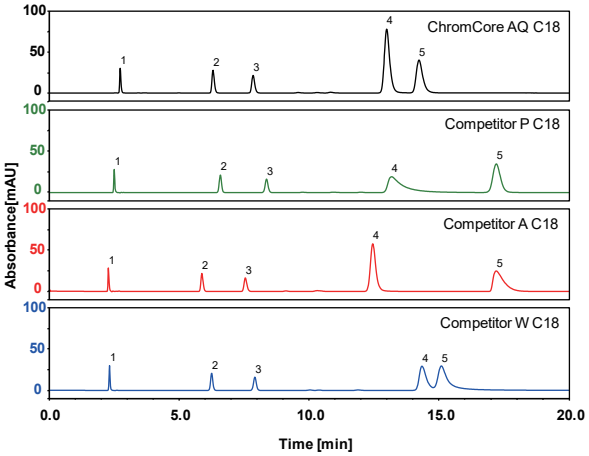
Testing Condition
Column: C18, 5 µm
Dimension: 4.6x150 mm
Mobile Phase: 10mM ammonium acetate buffer, pH5.2
Flow Rate: 1 mL/min
Temperature: 30 ℃
Injection: 5 µL
Detection: UV 254 nm
Analyte: 1. Cytosine
2. Uracil
3. Thymine

Protocol:
1. Equilibrate column with the mobile phase for 20 min before testing for 10 min
2. Stop flow for 10 min
3. Repeat "1" and "2" for 10 cycles

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

Peak Shape

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

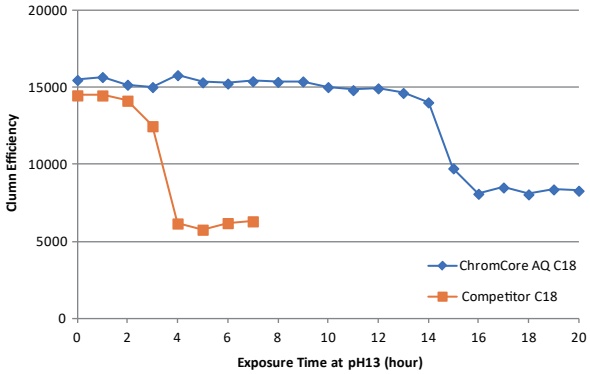


Column: ChromCore AQ C18, 5 µm
Dimension: 4.6x250 mm
Mobile Phase: 80/20 v/v MeOH/20 mM phosphate buffer, pH7.0
Flow Rate: 1 mL/min
Temperature: 30 ℃
Injection: 5 µL
Detection: UV 254 nm
Peaks: 1. Uracil
2. Toluene
3. Ethylbenzene
4. Quinizarin
5. Amitriptyline

Column	Amitriptyline Asymmetry (normalized)	Quinizarin Asymmetry (normalized)
ChromCore AQ C18	1.13	1.07
Competitor P C18	1.11	3.25
Competitor A C18	2.06	1.09
Competitor W C18	1.75	1.25

pH Stability

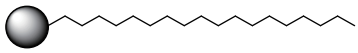
Compared with a brand name C18 column based on conventional silica particles, ChromCore AQ C18 demonstrates significantly enhanced chemical stability in alkaline conditions as the result of its high pH resistance nature of base particle and the protection of densely bonded surface.



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

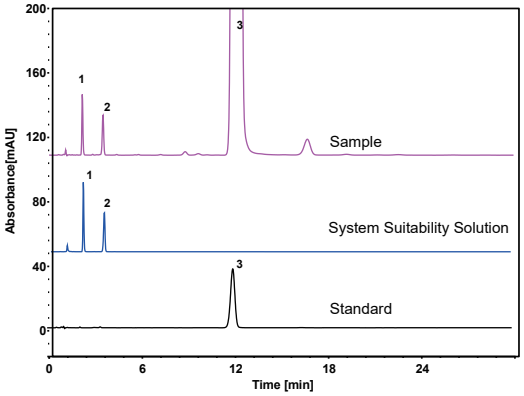
- Advanced monodispersed particle technology for high efficiency and mechanical strength
- Excellent chromatographic peak shape for acidic, basic and neutral analytes
- Low column bleed for good MS compatibility
- Good aqueous compatibility
- Good column-to-column consistency

Specifications

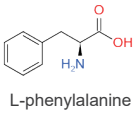
Product Name	ChromCore 120 C18
Functional Group	Octadecyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	1.8, 3 & 5 µm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	17%
End-capped	Yes
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm 12000 psi for 1.8 µm
Temperature Limit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

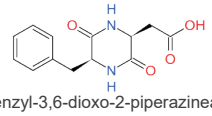
Applications

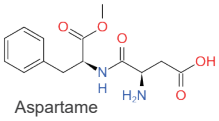
Aspartame



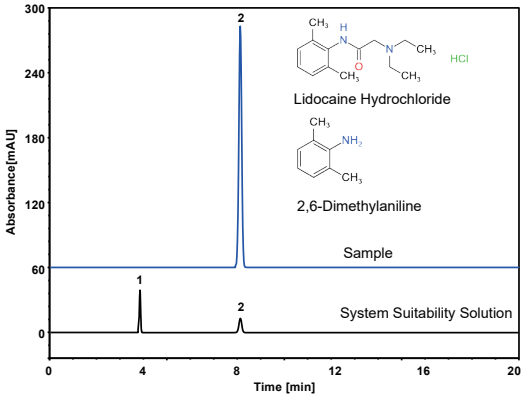
Column: ChromCore 120 C18, 5 μm
Dimension: 4.6×150 mm
Mobile Phase: 18/82 v/v MeOH/50 mM potassium dihydrogen phosphate in H_2O pH4.3 adjusted by phosphoric acid
Flow Rate: 2.0 mL/min
Temperature: 40 ℃
Injection: 20 μL
Detection: UV 210 nm
Sample: Aspartame
Peaks: 1. L-phenylalanine
2. 5-benzyl-3,6-dioxo-2-piperazineacetic Acid
3. Aspartame


L-phenylalanine


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


Aspartame

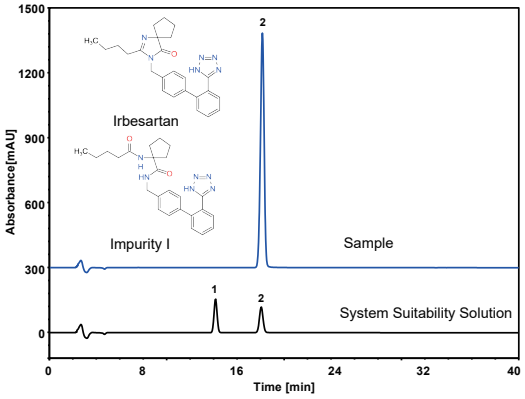
Lidocaine Hydrochloride



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

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
2,6-Dimethylaniline	4.697	10777	1.13	/	/
Lidocaine	7.950	12141	1.10	13.54	605.2

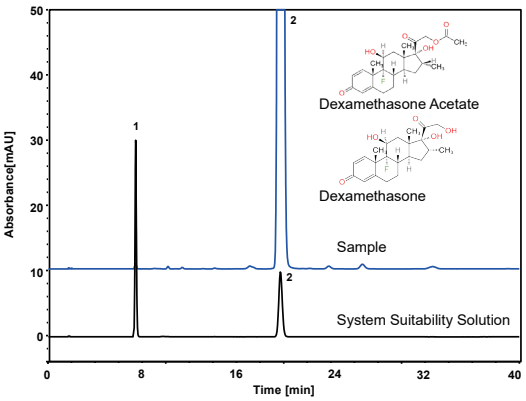
Irbesartan



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

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Impurity I	14.133	13244	1.02	/	/
Irbesartan	18.033	15549	1.02	7.29	12.1

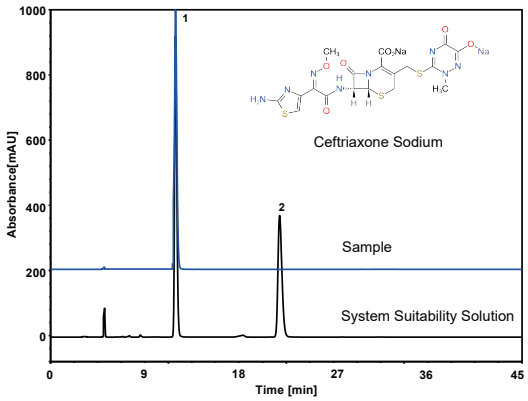
Dexamethasone Acetate



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

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Dexamethasone	7.410	18684	1.11	/	/
Dexamethasone Acetate	19.713	20579	1.06	32.10	56.1

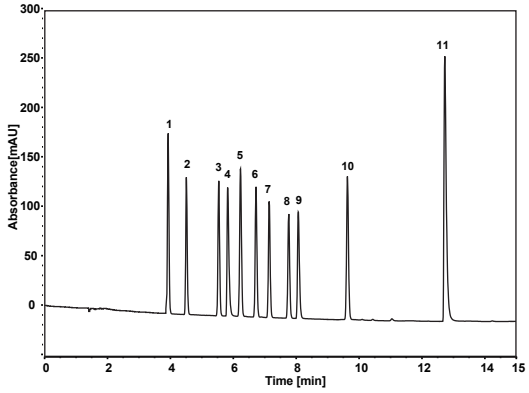
Ceftriaxone Sodium



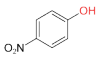
Column: ChromCore 120 C18, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 27/73 v/v MeCN/20 mM octylamine solution, pH6.5
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 20 μL
Detection: UV 254 nm
Peaks: 1. Ceftriaxone
2. Trans-isomer of Ceftriaxone

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Ceftriaxone	11.890	14638	1.31	/	39.1
Trans-isomer of Ceftriaxone	21.843	15723	1.30	18.26	/

Phenolic Compounds (U.S. EPA 604)

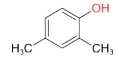


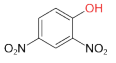

Phenol


4-Nitrophenol

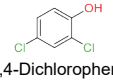

2-Chlorophenol


2-Nitrophenol


2,4-Dimethylphenol


2,4-Dinitrophenol


4-Chloro-3-Methylphenol


2,4-Dichlorophenol


2-Methyl-4,6-Dichlorophenol


2,4,6-Trichlorophenol

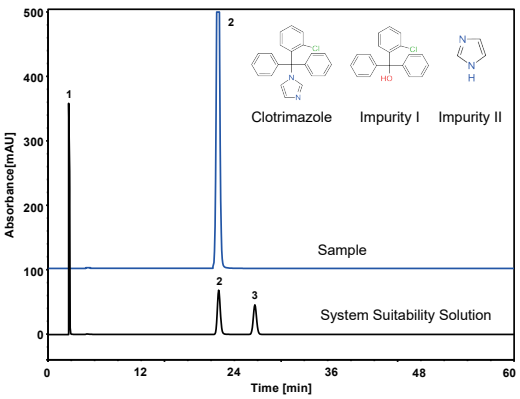

Pentachlorophenol

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

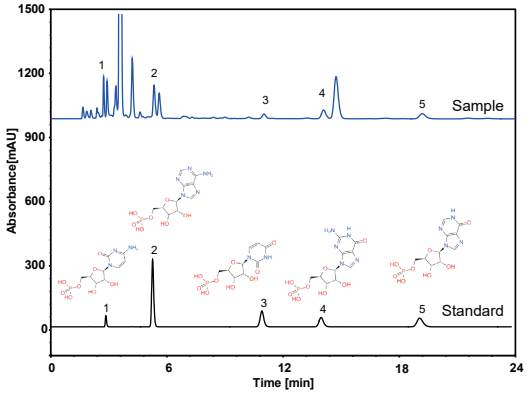
Clotrimazole



Column: ChromCore 120 C18, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 70/30 v/v MeOH/50 mM potassium 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

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Impurity II	2.713	15129	1.38	/	/
Clotrimazole	21.947	15007	1.12	47.75	53.6
Impurity I	26.603	17909	1.05	6.16	/

Five Nucleotides in Dairy Products



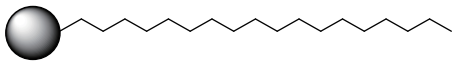
Column: ChromCore 120 C18, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 96/4 v/v 1.4 mM tetrabutyl ammonium hydrogen sulfate in 10 mM potassium phosphate buffer, pH2.5/MeOH
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 10 μL
Detection: UV 254 nm
Peaks: 1. CMP
2. AMP
3. UMP
4. GMP
5. IMP

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (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

For more information, please visit http://www.nanochrom.com

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

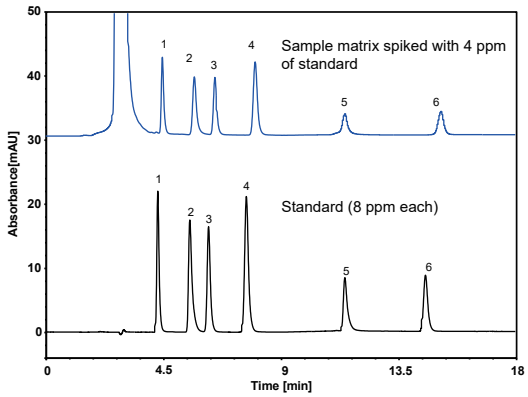
- C18 selectivity with 100% aqueous compatibility
- Excellent chromatographic peak shape for acidic, basic and neutral analytes
- Low column bleed, fully compatible with MS applications
- Good column-to-column consistency

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 °C
pH Range	2-10
Aqueous Compatibility	100% aqueous

Applications

Sildenafil in Urine

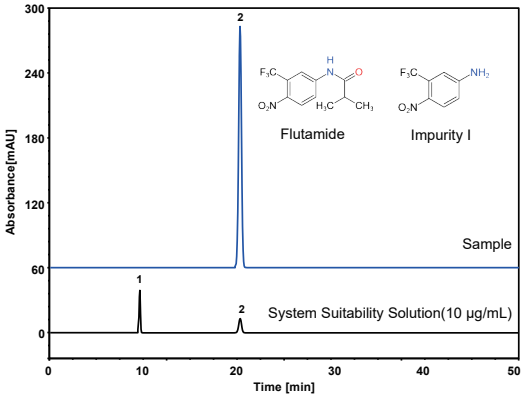


Column: ChromCore AQ C18, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: A) H_2O
B) MeOH

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

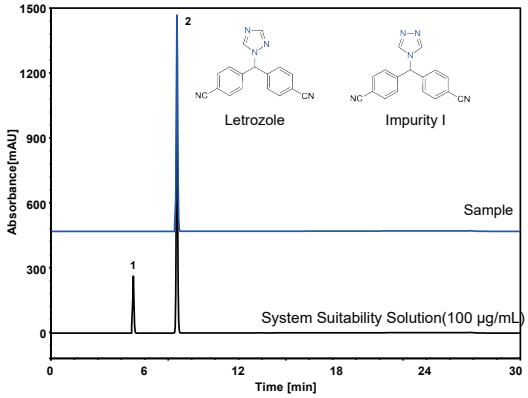
Flutamide



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

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Impurity I	9.560	22823	0.95	/	/
Flutamide	20.264	20248	0.96	26.02	13.3

Letrozole



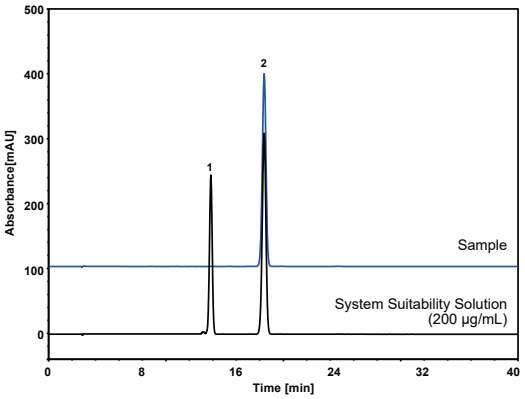
Column: ChromCore AQ C18, 5 μm
Dimension: 4.6×150 mm
Mobile Phase: A) H_2O
B) MeCN

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

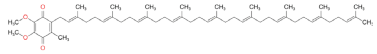
	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Impurity I	5.240	22079	1.10	/	/
Letrozole	8.030	36020	1.06	17.98	15.8

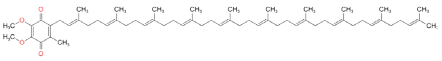
Coenzyme Q_9 and Coenzyme Q_{10}



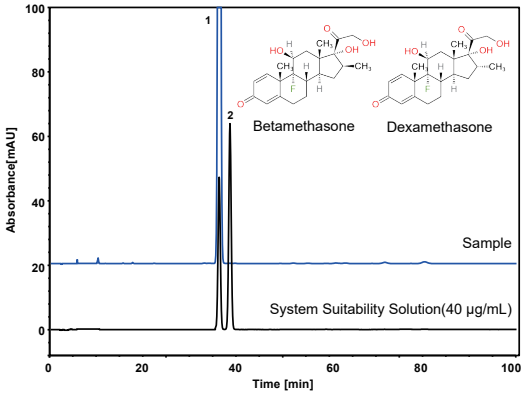
Column: ChromCore AQ C18, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 50/50 v/v MeOH/EtOH
Flow Rate: 1.0 mL/min
Temperature: 35 ℃
Injection: 20 μL
Detection: UV 275 nm
Peaks: 1. Coenzyme Q_9
2. Coenzyme Q_{10}

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Coenzyme Q_9	13.803	15833	0.98	/	/
Coenzyme Q_{10}	18.350	15823	0.96	8.89	12.6

Coenzyme Q_9 

Coenzyme Q_{10} 

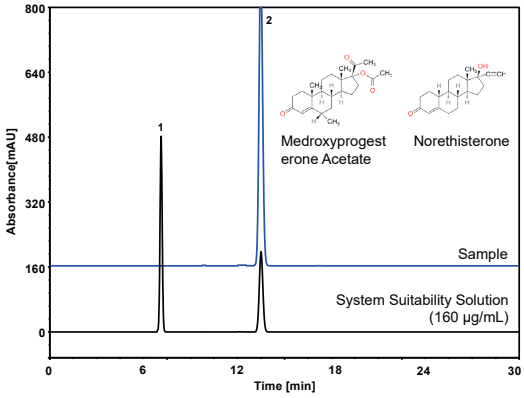
Betamethasone



Column: ChromCore AQ C18, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 25/75 v/v MeCN/H_2O
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 20 μL
Detection: UV 240 nm
Peaks: 1. Betamethasone
2. Dexamethasone

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Betamethasone	36.157	24315	1.01	/	18.3
Dexamethasone	38.470	24275	1.01	2.42	/

Medroxyprogesterone Acetate



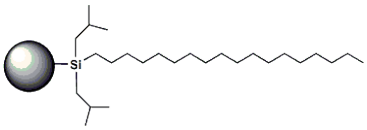
Column: ChromCore AQ C18, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 70/30 v/v MeOH/H_2O
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 10 μL
Detection: UV 254 nm
Peaks: 1. Norethisterone
2. Medroxyprogesterone Acetate

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Norethisterone	7.093	12521	1.01	/	/
Medroxyprogesterone Acetate	13.487	15389	1.04	18.57	31.5

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (mm)		
			4.6	3.0	2.1
ChromCore AQ C18	5	250	A201-050012-04625S	A201-050012-03025S	A201-050012-02125S
		150	A201-050012-04615S	A201-050012-03015S	A201-050012-02115S
		100	A201-050012-04610S	A201-050012-03010S	A201-050012-02110S
		50	A201-050012-04605S	A201-050012-03005S	A201-050012-02105S
	3	150	A201-030012-04615S	A201-030012-03015S	A201-030012-02115S
		100	A201-030012-04610S	A201-030012-03010S	A201-030012-02110S
		50	A201-030012-04605S	A201-030012-03005S	A201-030012-02105S
		30	A201-030012-04603S	A201-030012-03003S	A201-030012-02103S
	1.8	150	/	A201-018012-03015S	A201-018012-02115S
		100	/	A201-018012-03010S	A201-018012-02110S
		50	/	A201-018012-03005S	A201-018012-02105S
		30	/	A201-018012-03003S	A201-018012-02103S

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 complimentary to ChromCore C18 columns.

Main Features

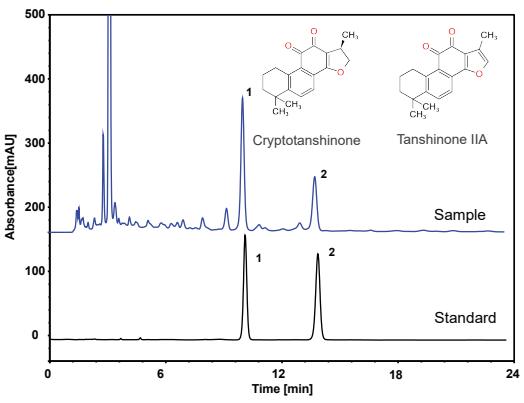
- High tolerance under acidic conditions
- Enhanced retention for highly polar compounds
- 100% aqueous compatibility
- Good column-to-column consistency

Specifications

Product Name	ChromCore AR C18
Functional Group	Sterically protected octadecyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	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
Temperature Limit	60 °C
pH Range	1-8
Aqueous Compatibility	100% aqueous

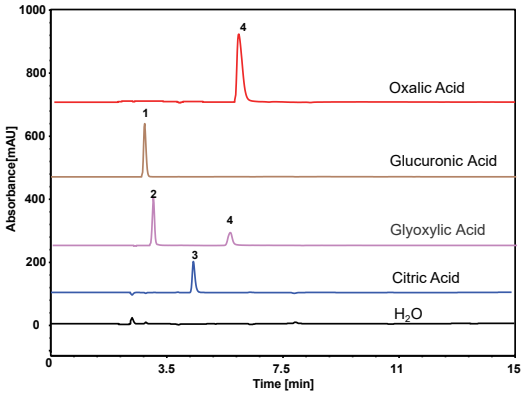
Applications

Clozapine Gel

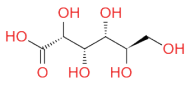


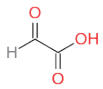
Column: ChromCore AR C18, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 75/25 v/v MeOH/H_2O
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 10 µL
Detection: UV 254 nm
Peaks: 1. Cryptotanshinone
2. Tanshinone IIA

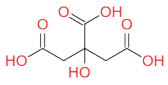
Four Organic Acids

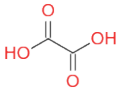


Column: ChromCore AR C18, 5 μm
Dimension: 4.6×250 mm
Mobile Phase : 5/95 v/v MeCN/0.1% tetrabutylammonium hydrogen sulfate in 50 mM NaH_2PO_4, pH2.0
Flow Rate: 1.0 mL/min
Temperature: 35 ℃
Injection: 10 μL
Detection: UV 210 nm
Peaks: 1. Glucuronic Acid
2. Glyoxylic Acid
3. Citric Acid
4. Oxalic Acid

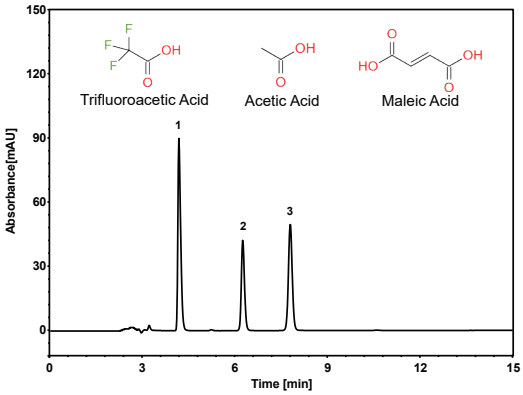

Glucuronic Acid


Glyoxylic Acid


Citric Acid


Oxalic Acid

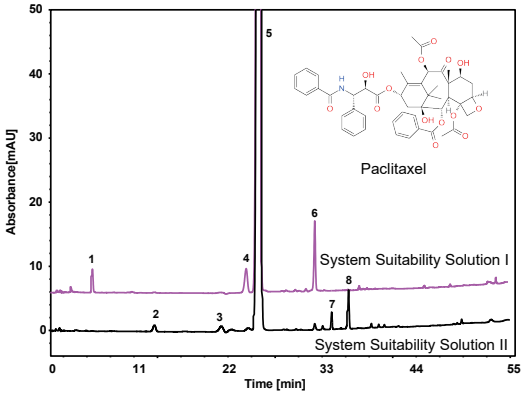
Three Organic Acids



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 (0.008 mg/mL)

Compoent	R.T. (min)	Theoretical Plates	Tailing Factor	Resolution
Trifluoroacetic Acid	4.189	9337	1.44	/
Acetic Acid	6.255	17757	1.15	11.4
Maleic Acid	7.792	18978	1.06	7.3

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

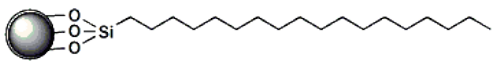
Flow Rate: 1.2 mL/min
Temperature: 35 ℃
Injection: 15 μL
Detection: UV 227 nm
Peaks: 1. Impurity N
2. Impurity G
3. Impurity A
4. Impurity H
5. Paclitaxel
6. Impurity E
7. Impurity I
8. Impurity L

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (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

For more information, please visit http://www.nanochrom.com

ChromCore™ BR C18 Columns



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

Main Features

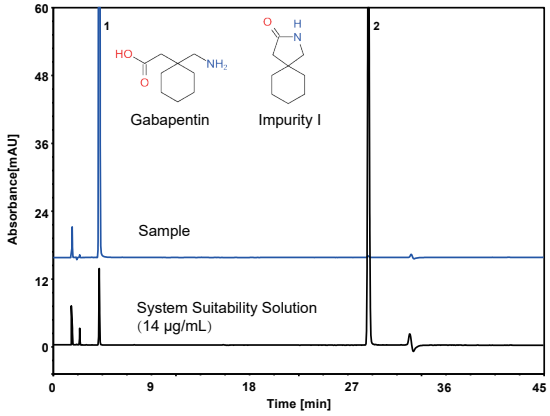
- Enhanced chemical stability under alkaline conditions
- Good peak shape for both acidic and basic compounds
- Improved shape selectivity for structural related compounds
- Low column bleed, compatible with MS applications

Specifications

Product Name	ChromCore BR C18
Functional Group	Octadecyl
Substrate	Superficially organic-inorganic hybrid, monodispersed, porous, spherical silica particles
Particle Size	3 & 5 µm
Pore Size	180 Å
Surface Area	150 m^2/g
Carbon Load	12%
End-capped	Yes
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm
Temperature Limit	60 °C
pH Range	1.5-11.0
Aqueous Compatibility	95% aqueous

Applications

Gabapentin

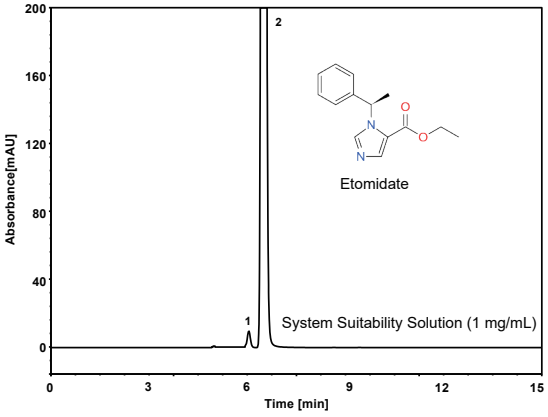


Column: ChromCore BR C18, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: A) 6/94 v/v MeCN/ 9.4 mM phosphate buffer, pH6.9 adjusted by 5 mol/L KOH solution
B) 30/70 v/v MeCN/ 9.4 mM phosphate buffer, pH6.9 adjusted by 5 mol/L KOH solution

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

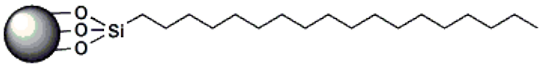
	R.T. (min)	Theoretical Plates (USP)	Tailing Factor (USP)	Resolution (USP)
Etomidate	6.500	18810	1.14	2.41

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (mm)		
			4.6	3.0	2.1
ChromCore BR C18	5	250	A301-050012-04625S	A301-050012-03025S	A301-050012-02125S
		150	A301-050012-04615S	A301-050012-03015S	A301-050012-02115S
		100	A301-050012-04610S	A301-050012-03010S	A301-050012-02110S
		50	A301-050012-04605S	A301-050012-03005S	A301-050012-02105S
	3	150	A301-030012-04615S	A301-030012-03015S	A301-030012-02115S
		100	A301-030012-04610S	A301-030012-03010S	A301-030012-02110S
		50	A301-030012-04605S	A301-030012-03005S	A301-030012-02105S
		30	A301-030012-04603S	A301-030012-03003S	A301-030012-02103S

For more information, please visit http://www.nanochrom.com

ChromCore™ 120 C18-T Columns



ChromCore 120 C18-T columns are based on bonding C18 functionality 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

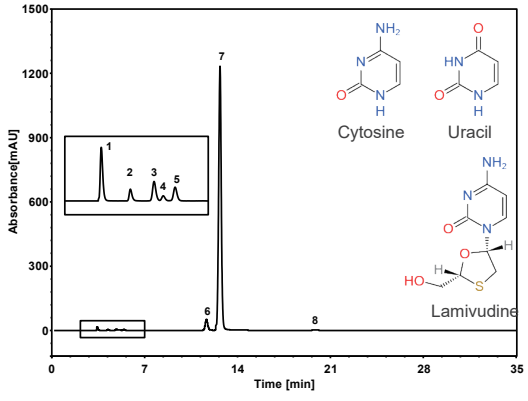
- Enhanced hydrolytic stability for longer column life
- Good peak shape for both acidic and basic compounds
- Improved shape selectivity for structural related compounds
- Low column bleed, compatible with MS applications

Specifications

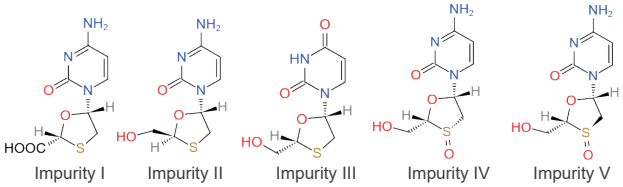
Product Name	ChromCore 120 C18-T
Functional Group	Octadecyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 & 5 µm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	18%
End-capped	Yes
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm
Temperature Limit	60 ℃
pH Range	1.5-10.0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

Applications

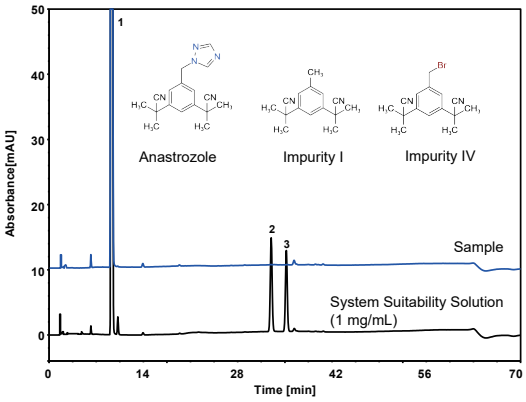
Lamivudine



Columns: 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

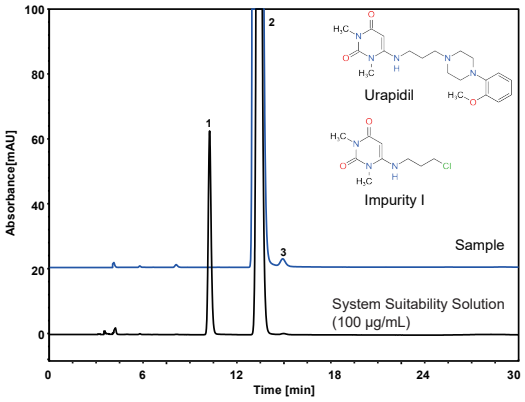


Column: ChromCore 120 C18-T, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: A) 40/60 v/v MeCN/H_2O
B) 60/40 v/v MeCN/H_2O

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



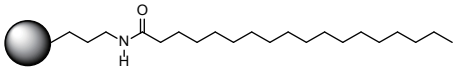
Column: ChromCore 120 C18-T, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 30/70 v/v MeOH/100 mM sodium acetate solution
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 20 µL
Detection: UV 268 nm
Peaks: 1. Impurity I
2. Urapidil
3. Impurity II

Ordering Information

Product Name	Particle Size (µm)	Length (mm)	ID (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

For more information, please visit http://www.nanochrom.com

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 typical C18.

Main Features

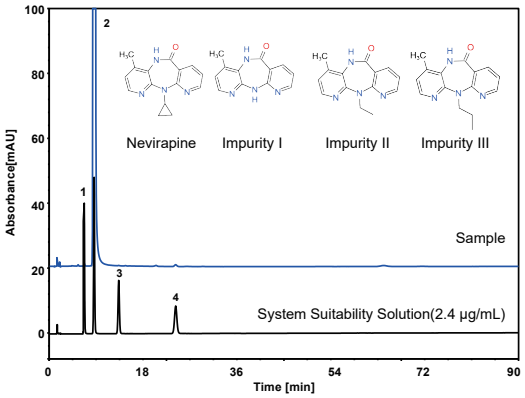
- Selectivity complimentary to general C18
- Enhanced retention for polar compounds especially containing hydrogen bond donor
- 100% aqueous compatibility
- Low column bleed, compatible with MS applications

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 °C
pH Range	2-10
Aqueous Compatibility	100% aqueous

Applications

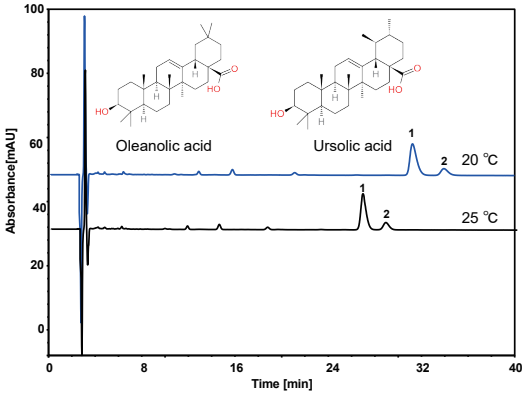
Nevirapine



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

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Impurity I	6.640	11345	1.07	/	/
Nevirapine	8.540	10542	1.08	6.53	143.4
Impurity II	13.260	12123	1.05	11.59	/
Impurity III	24.197	13057	1.04	16.46	/

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

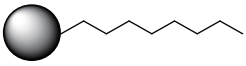
Temperature	Resolution
20 ℃	2.42
25 ℃	2.16

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (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

For more information, please visit http://www.nanochrom.com

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. They are designed for separating analytes with intermediate to high hydrophobicity.

Main Features

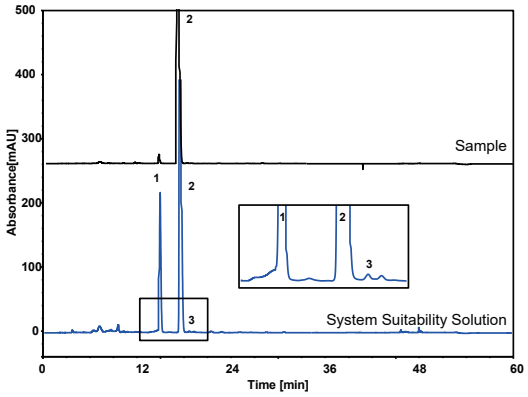
- Well suited for intermediate to high hydrophobic compounds analysis
- Excellent chromatographic peak shape for acidic, basic and neutral analytes
- Good aqueous compatibility
- Good column-to-column consistency

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 °C
pH Range	2-10
Aqueous Compatibility	95% aqueous

Applications

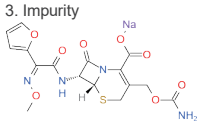
Cefuroxime Sodium



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

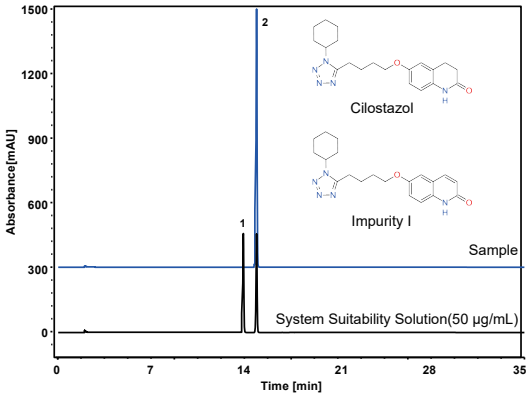
Gradient:	t(min)	%A	%B
	0	5	95
	40	20	80
	50	40	60
	51	5	95
	60	5	95

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

Cilostazol



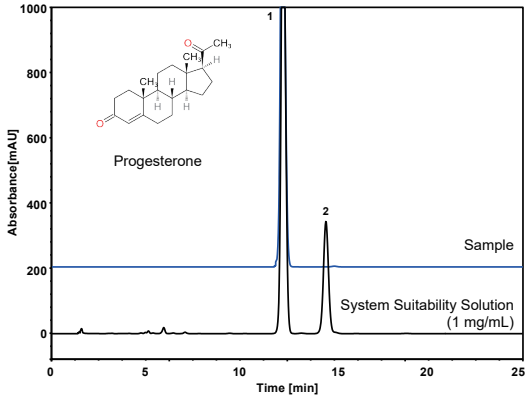
Column: ChromCore 120 C8, 5 μm
Dimension: 4.6×150 mm
Mobile Phase: A) H_2O
B) MeCN

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

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Impurity I	13.900	167936	0.97	/	/
Cilostazol	14.897	169986	0.90	7.11	49.3

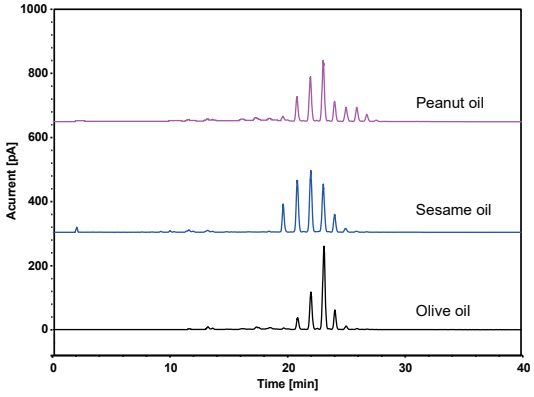
Progesterone



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

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise
Progesterone	12.273	13691	1.10	/	103.4
Degradation Product	14.547	13853	1.02	4.97	/

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

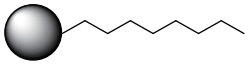
Flow Rate: 1.0 mL/min
Injection: 5 μL
Temperature: 30 ℃
Detection: CAD
Sample: Cooking Oil (5 mg/mL dissolved in isopropanol)

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (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

For more information, please visit http://www.nanochrom.com

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. They are designed for separating analytes with intermediate to high hydrophobicity in highly aqueous mobile phase.

Main Features

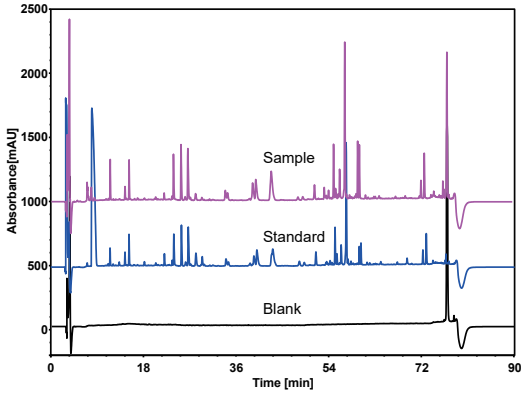
- C8 selectivity with 100% aqueous compatibility
- Well suited for intermediate to high hydrophobic compounds analysis
- Excellent chromatographic peak shape for acidic, basic and neutral analytes
- Low column bleed, fully compatible with MS applications
- Good column-to-column consistency

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 °C
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

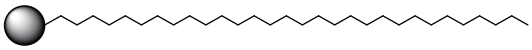
Flow Rate: 1.0 mL/min
Temperature: 35 ℃
Injection: 100 µL
Detection: UV 214 nm
Sample: Enzymatic hydrolysates of rhGH by trypsin

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (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

For more information, please visit http://www.nanochrom.com

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

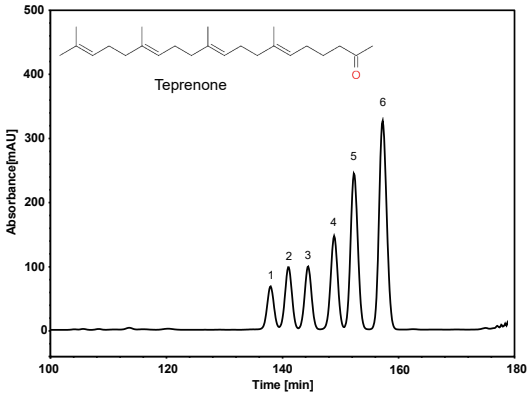
- Good selectivity for highly hydrophobic, long-chain and structurally related compounds
- Enhanced shape selectivity for geometric and positional isomers
- Compatible with both highly aqueous and highly organic solvent conditions
- Good column-to-column consistency

Specifications

Product Name	ChromCore C30
Functional Group	Triacontyldimethyl
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 °C
pH Range	2-10
Aqueous Compatibility	100% aqueous

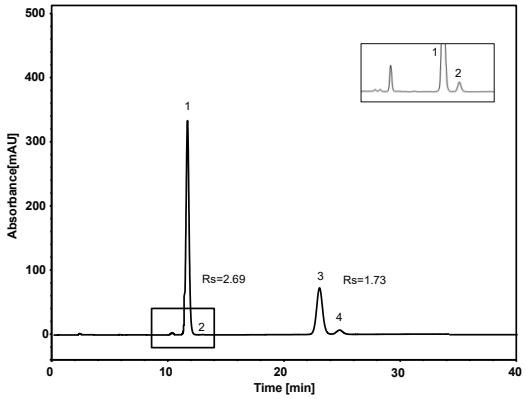
Applications

Teprenone and Isomer



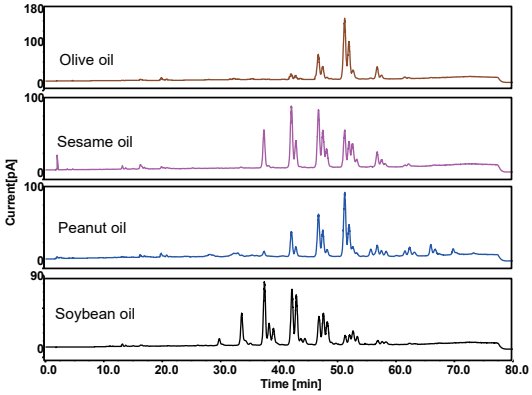
Column:	ChromCore C30, 5 μm		
Dimension:	4.6×250 mm		
Mobile Phase:	A) H_2O		
	B) MeCN		
Gradient:	t(min)	%A	%B
	0	40	60
	20	40	60
	170	25	75
	180	10	90
	190	10	90
Flow Rate:	1.0 mL/min		
Temperature:	20 °C		
Injection:	5 μL		
Detection:	UV 205 nm		
Peaks:	1~4. Teprenone isomer		
	5~6. Teprenone		

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

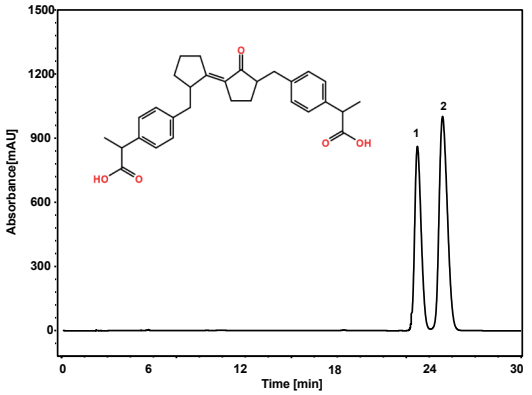


Column: ChromCore C30, 5 μm
Dimension: 4.6×150 mm
Mobile Phase: A) MeCN
B) 100 mM ammonium acetate solution, pH5.0
C) IPA

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

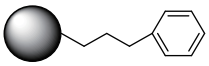


Column: ChromCore C30, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 50/50 v/v MeCN/0.1% phosphoric acid in H_2O
Flow Rate: 1.0 mL/min
Temperature: 40 ℃
Injection: 10 μL
Detection: UV 254 nm
Peaks: 1~2. Cis-trans Isomers

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (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	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

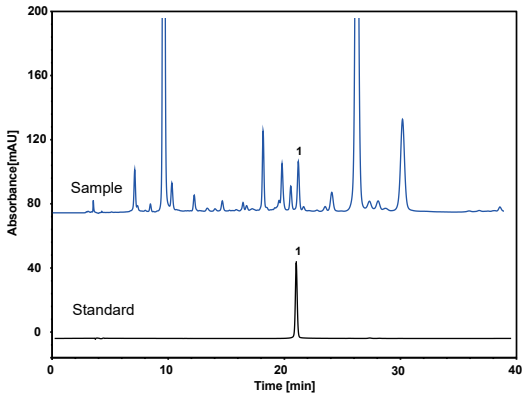
- Suitable selectivity for aromatic and heterocyclic compounds based on hydrophobic and π-π interactions
- Selectivity complementary to C18
- Low column bleed, compatible with MS applications
- Good column-to-column consistency

Specifications

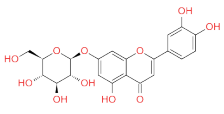
Product Name	ChromCore Phenyl
Functional Group	Propylphenyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 & 5 µm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	12%
End-capped	Yes
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm
Temperature Limit	60 °C
pH Range	2-8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

Applications

Honeysuckle

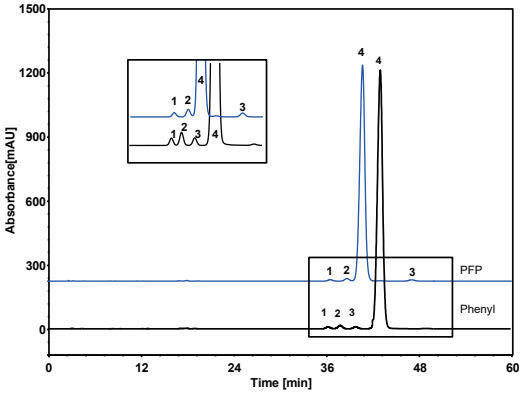


Column:	ChromCore Phenyl, 5 µm		
Dimension:	4.6×250 mm		
Mobile Phase:	A) 0.5% acetic acid in H_2O		
	B) MeCN		
Gradient:	t(min)	%A	%B
	0	90	10
	15	80	20
	30	80	20
	40	70	30
Flow Rate:	1.0 mL/min		
Temperature:	25 °C		
Injection:	10 µL		
Detection:	UV 350 nm		
Peak:	1. Luteoloside		

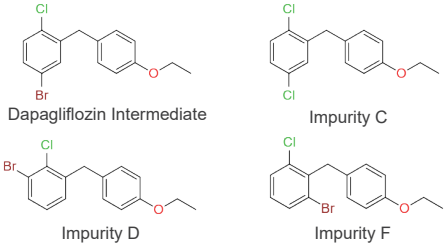


Luteoloside

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)

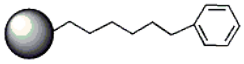


Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (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

For more information, please visit http://www.nanochrom.com

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 selectivity towards aromatic analytes, such as isomers of aromatic and heterocyclic pharmaceuticals and catechins.

Main Features

- Suitable selectivity for aromatic and heterocyclic compounds based on hydrophobic and π-π interactions
- Enhanced hydrophobic retention compared to ChromCore Phenyl
- Low column bleed, compatible with MS applications
- Good column-to-column consistency

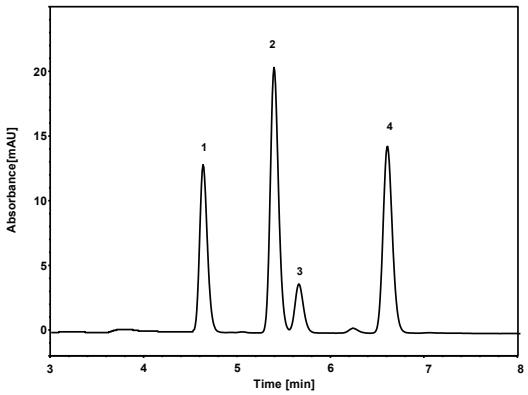
Specifications

Product Name	ChromCore Phenyl-Hexyl
Functional Group	Phenyl-hexyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	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
Temperature Limit	60 °C
pH Range	2-9
Aqueous Compatibility	95% aqueous

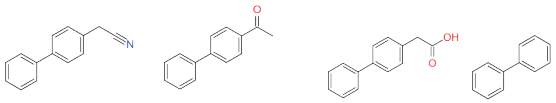
The selectivity of phenyl-hexyl is complementary to both C18 and polar C18 phases because of its unique aromaticity which can provide unique solute interaction with the aromatic ring and its delocalized electrons. Sometimes, the phenyl-hexyl phase may show good shape selectivity, which arises from solute multipoint interaction with the planar ring system. For solutes with aromatic electron-withdrawing groups or with a delocalized heterocyclic ring system such as the benzodiazepine compounds, we can see more retention and selectivity.

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: Mixed standards (0.6 µg/mL)
Peaks: 1. 4-Biphenylacetonitrile
2. 4-Acetylbiphenyl
3. 4-Biphenylacetic acid
4. Biphenyl



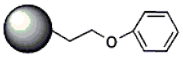
4-Biphenylacetonitrile 4-Acetylbiphenyl 4-Biphenylacetic acid Biphenyl

Ordering Information

Product Name	Particle Size (µm)	Length (mm)	ID (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

For more information, please visit http://www.nanochrom.com

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

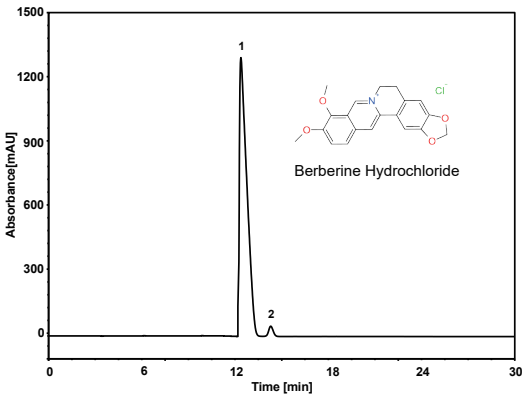
- Suitable selectivity for aromatic and heterocyclic compounds based on hydrophobic and π-π interactions
- Selectivity complementary to ChromCore Phenyl
- Low column bleed, compatible with MS applications
- Good column-to-column consistency

Specifications

Product Name	ChromCore Phenyl-Ether
Functional Group	Ethoxyphenyl
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 °C
pH Range	2-9
Aqueous Compatibility	95% aqueous

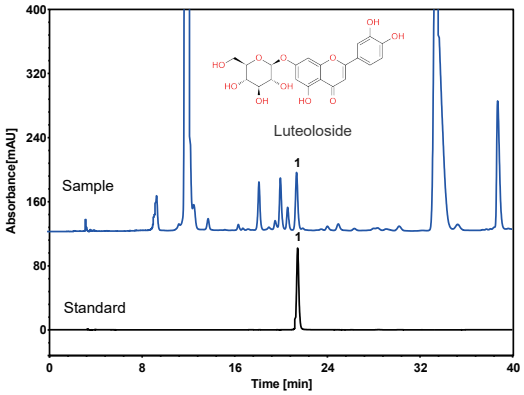
Applications

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

Honeysuckle



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

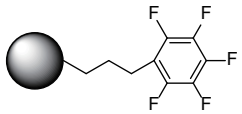
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 10 μL
Detection: UV 350 nm
Peak: 1. Luteoloside

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (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

For more information, please visit http://www.nanochrom.com

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

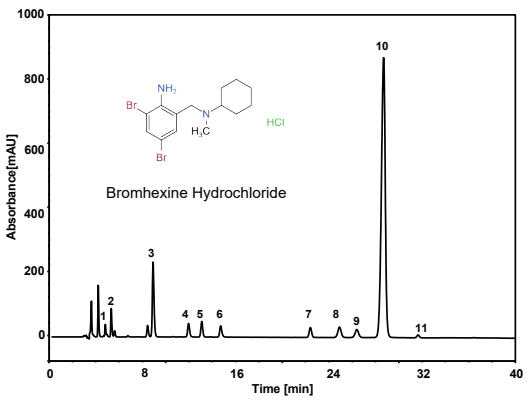
- Suitable selectivity for aromatic and heterocyclic compounds based on hydrophobic and π-π interactions
- Selectivity complementary to ChromCore Phenyl
- Low column bleed, compatible with MS applications
- Good column-to-column consistency

Specifications

Product Name	ChromCore PFP
Functional Group	Pentafluorophenyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	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
Temperature Limit	60 °C
pH Range	2-8
Aqueous Compatibility	95% aqueous

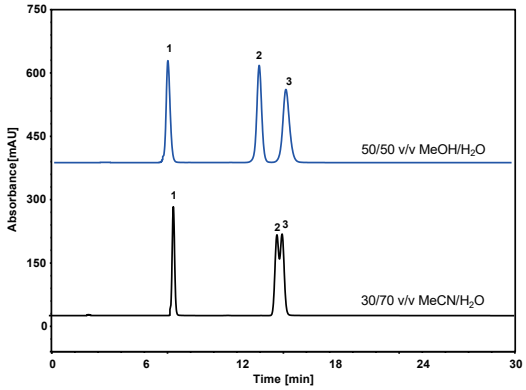
Applications

Bromhexine Hydrochloride

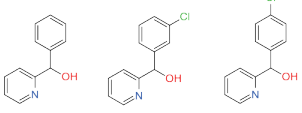


Column:	ChromCore PFP, 5 µm		
Dimension:	4.6×250 mm		
Mobile Phase:	A) MeCN		
	B) 0.5% acetic acid in H_2O, pH5.0 adjusted by triethylamine		
Gradient:	t(min)	%A	%B
	0	35	65
	5	35	65
	35	55	45
	40	55	45
	40.1	35	65
	50	35	65
Flow Rate:	1.0 mL/min		
Temperature:	40 °C		
Injection:	10 µL		
Detection:	UV 248 nm		
Peaks:	1~9. Impurities		
	10. Bromhexine		
	11. Impurity		

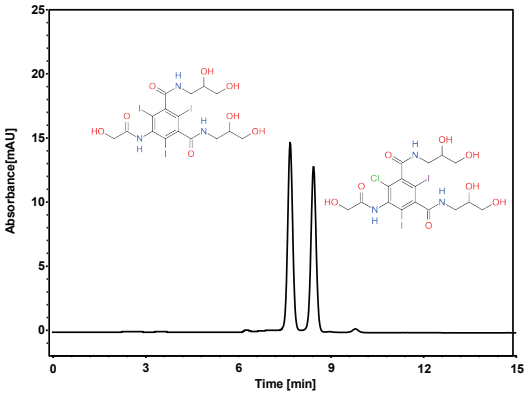
Pharmaceutical Intermediate-PCL



Column: ChromCore PFP, 5 μm
Dimension: 4.6×250 mm
Mobile Phase:
Blue: 50/50 v/v MeOH/H_2O
Black: 30/70 v/v MeCN/H_2O
Flow Rate: 1.0 mL/min
Temperature: 35 ℃
Injection: 10 μL
Detection: UV 220 nm
Peaks: 1. Dcl-Pcl
2. m-Pcl
3. Pcl

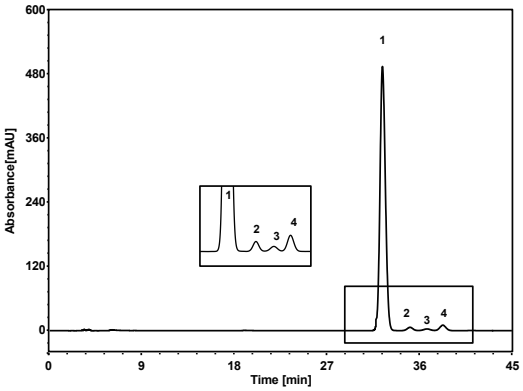


Ioversols

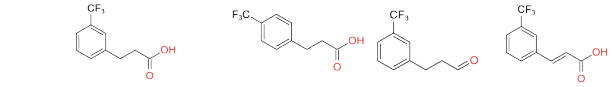


Column: ChromCore PFP, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 3/97 v/v MeOH/0.05% phosphoric acid in H_2O
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 10 μL
Detection: UV 240 nm
Sample: Mixture of Iodofluorohydrins

3-(3-Trifluoromethylphenyl)propionic Acid



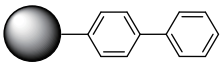
Column: ChromCore PFP, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 50/50 v/v MeOH/0.1% phosphoric acid in H_2O
Flow Rate: 1.0 mL/min
Temperature: 40 ℃
Injection: 10 μL
Detection: UV 210 nm
Peaks: 1. 3-(3-Trifluoromethylphenyl)propionic Acid
2. Impurity D
3. Impurity G
4. Impurity A



Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (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

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 or ChromCore PFP columns.

Main Features

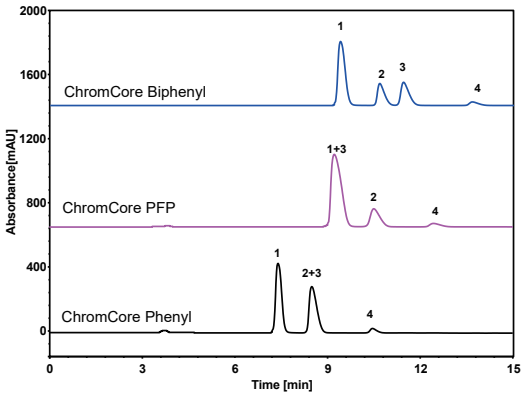
- Unique selectivity for aromatic and heterocyclic compounds based on hydrophobic and π-π interactions
- Selectivity complementary to other aromatic stationary phases
- Low column bleed, compatible with MS applications
- Good column-to-column consistency

Specifications

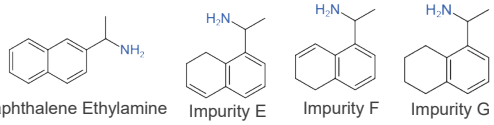
Product Name	ChromCore Biphenyl
Functional Group	Biphenyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 & 5 µm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	12%
End-capped	Yes
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm
Temperature Limit	60 °C
pH Range	2-9
Aqueous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

Applications

Naphthalene Ethylamine (Selectivity Comparison)

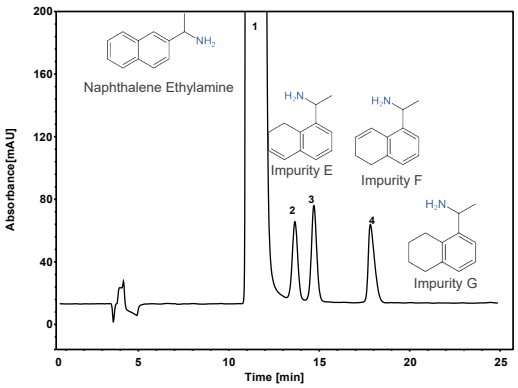


Columns: ChromCore Biphenyl, 5 µm
ChromCore PFP, 5 µm
ChromCore Phenyl, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 50/50 v/v MeOH/30 mM ammonium acetate buffer, pH5.8
Flow Rate: 1.0 mL/min
Temperature: 40 °C
Injection: 10 µL
Detection: UV 223 nm
Peaks: 1. Naphthalene Ethylamine (0.25 mg/mL)
2. Impurity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



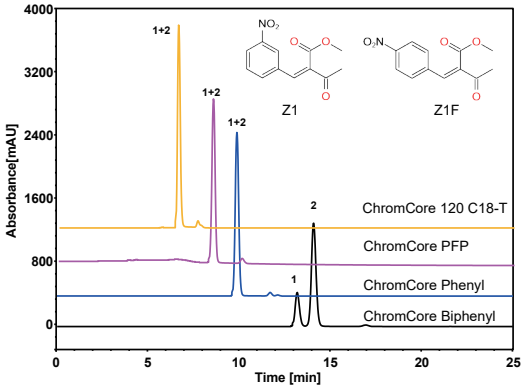
Naphthalene Ethylamine Impurity E Impurity F Impurity G

Naphthalene Ethylamine



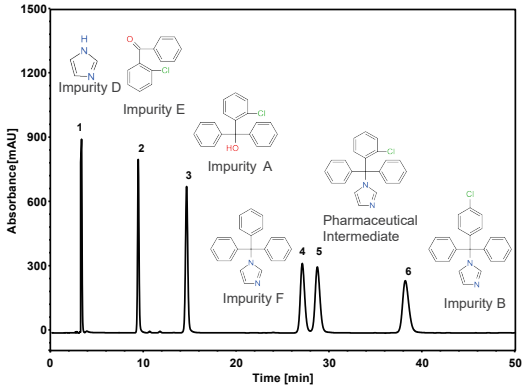
Column: ChromCore Biphenyl, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 45/55 v/v MeOH/30 mM ammonium acetate buffer, pH5.8
Flow Rate: 1.0 mL/min
Temperature: 40 ℃
Injection: 10 µL
Detection: UV 223 nm
Peaks: 1. Naphthalene Ethylamine (2 mg/mL)
2. Impurity E (20 µg/mL)
3. Impurity F (20 µg/mL)
4. Impurity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



Columns: 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: Mixed standards solution（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

Ordering Information

Product Name	Particle Size (µm)	Length (mm)	ID (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

ChromCore 300 Å reversed phase columns are based on high-purity, wide-pore, monodispersed, spherical silica particles modified with C18, C8 or C4 functionality with exhaustive end-capping. They are designed for separating analytes with large size, including 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

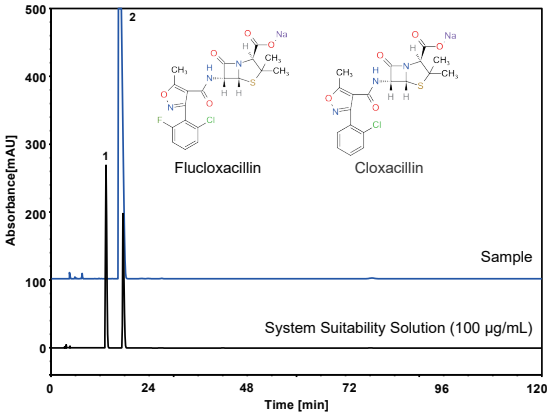
Specifications

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%	4.5%	3%
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		

Specifications

» ChromCore 300 C18

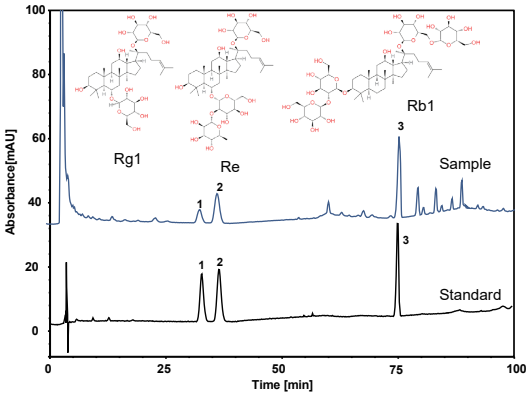
Flucloxacillin Sodium



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

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Cloxacillin	13.353	12763	1.84	/	/
Flucloxacillin	17.490	11951	1.96	7.43	166.6

Red Ginseng



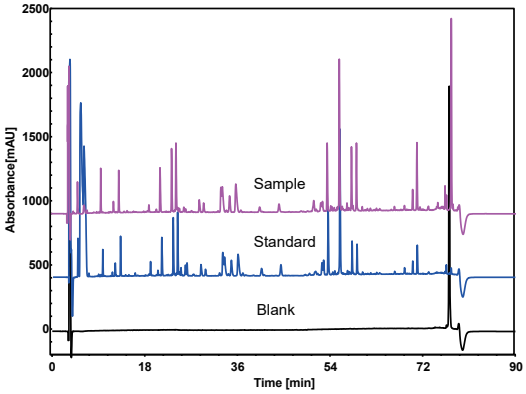
Column: ChromCore 300 C18, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: A) MeCN
B) H_2O

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. Ginsenosides Rg1
2. Ginsenosides Re
3. Ginsenosides Rb1

» ChromCore 300 C8

Peptide Mapping of rhGH

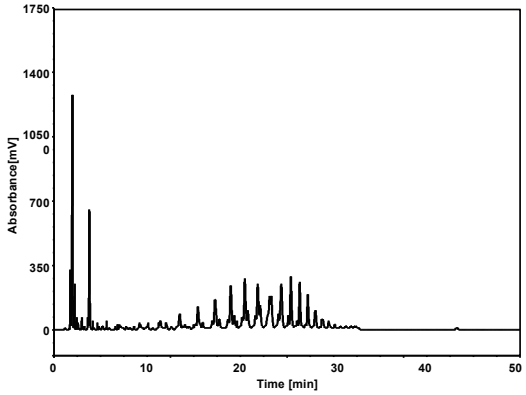


Column: ChromCore 300 C8, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: A) 0.1% TFA in H_2O
B) 0.1% TFA in 90% MeCN/H_2O

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



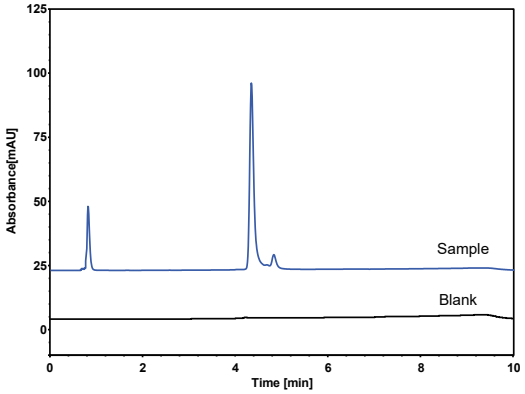
Column: ChromCore 300 C8, 3 μm
Dimension: 2.1×100 mm
Mobile Phase: A) 0.1% acetic acid in H_2O
B) MeCN

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

ChromCore 300 C4-T

BSA

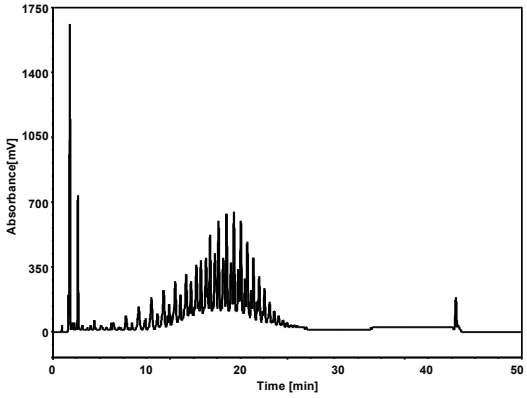


Column: ChromCore 300 C4-T, 5 μm
Dimension: 4.6×50 mm
Mobile Phase: A) 0.1% TFA in H_2O
B) 0.1% TFA in MeCN
Gradient:

t(min)	%A	%B
0	75	25
8	40	60
9	75	25

Flow Rate: 1.0 mL/min
Temperature: 70 ℃
Injection: 10 μL
Detection: UV 280 nm

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

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (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™ Normal Phase/HILIC LC Columns

ChromCore Normal-Phase/HILIC HPLC columns are based on a combination of novel monodispersed particle technology, advanced column chemistry and well-established column packing process. These columns are suited for a broad range of applications, including pharmaceutical, food and beverage, clinical mass spectrometry, chemical, environmental, consumer products, and more.

Main Features

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

ChromCore™
LC Columns

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

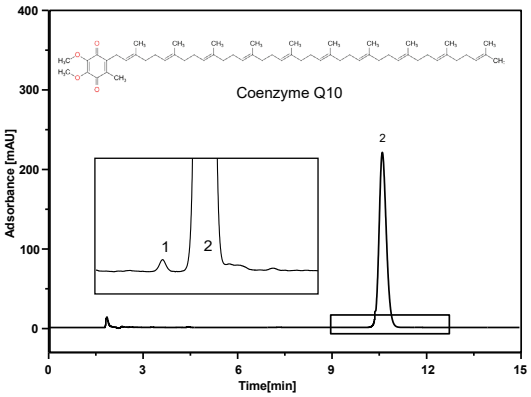
- Monodispersed, high-purity, porous, spherical silica particles for high column efficiency and mechanical strength
- Excellent chromatography performance for symmetrical peaks
- Good column-to-column consistency

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 °C
pH Range	3-7
Aqueous Compatibility	100% aqueous

Applications

Coenzyme Q10 and Isomer

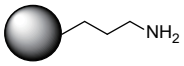


Column: ChromCore Silica, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 97/3 v/v hexane/ethyl acetate
Flow Rate: 2.0 mL/min
Temperature: 30 °C
Injection: 20 µL
Detection: UV 275 nm
Peaks: 1. Coenzyme Q10 Isomer
2. Coenzyme Q10

Ordering Information

Product Name	Particle Size (µm)	Length (mm)	ID (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

ChromCore™ NH_2 Columns



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

Main Features

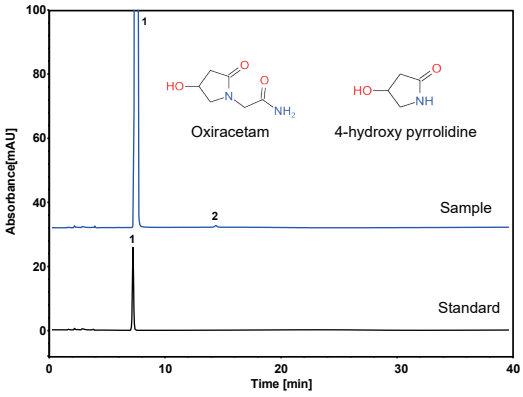
- Desired selectivity for separating fructose, glycose, sucrose, maltose and lactose
- Monodispersed, high-purity, porous, spherical silica particles for high column efficiency
- Good column-to-column consistency

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 °C
pH Range	2-8
Aqueous Compatibility	100% aqueous

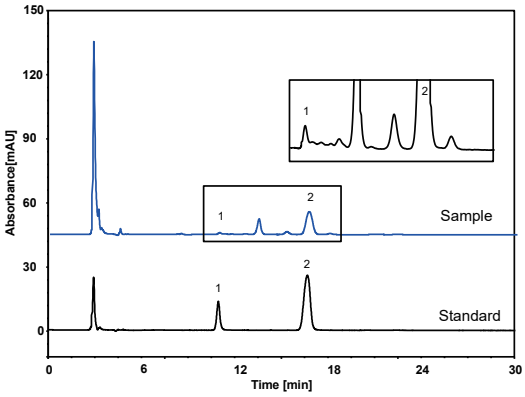
Applications

Oxiracetam

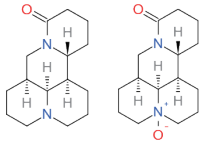


Column: ChromCore NH_2, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 74/26 v/v MeCN/ 30mM phosphate buffer, pH3.5
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 10 μL
Detection: UV 210 nm
Peaks: 1. Oxiracetam
2. 4-hydroxy Pyrrolidine

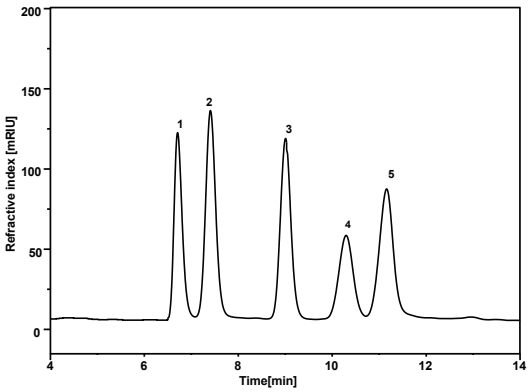
Sophora



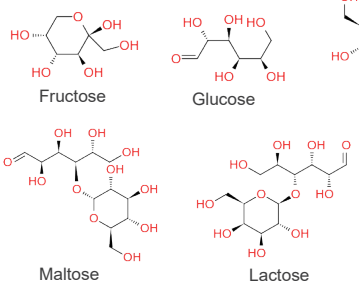
Column: ChromCore NH_2, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: A) MeCN
B) EtOH
C) 3%(v/v)H_3PO_4 in H_2O
Gradient: A/B/C v/v/v 80/10/10
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 5 μL
Detection: UV 220 nm
Peaks: 1. Matrine
2. Oxymatrine



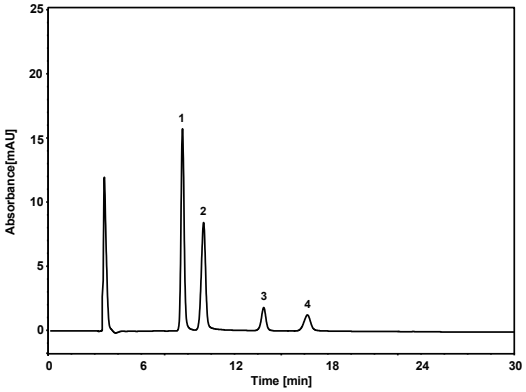
Sugars



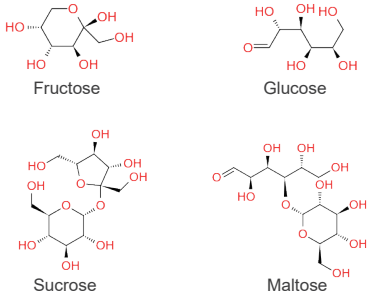
Column: ChromCore NH_2, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 70/30 v/v MeCN/H_2O
Flow Rate: 1.0 mL/min
Temperature: 40 ℃
Injection: 20 μL
Detection: RID
Peaks: 1. Fructose
2. Glucose
3. Sucrose
4. Maltose
5. Lactose



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
Peaks: 1. Fructose
2. Glucose
3. Sucrose
4. Maltose

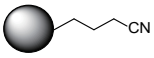


Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (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

For more information, please visit http://www.nanochrom.com

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

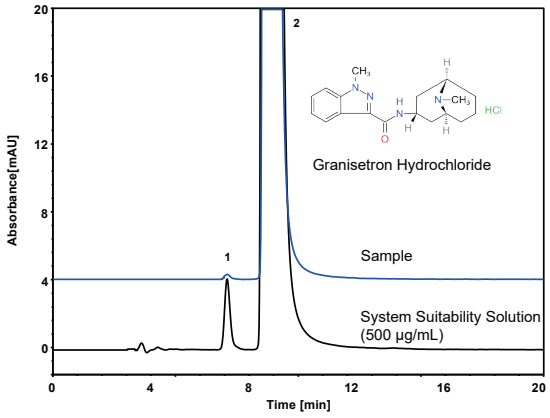
- Monodispersed, high-purity, porous, spherical silica particles for high column efficiency
- Suitable for separating hydrophobic, unsaturated and polar compounds
- Selectivity complementary to Silica and NH_2 phase in normal phase/HILIC mode

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 °C
pH Range	2-8
Aqueous Compatibility	100% aqueous

Applications

Granisetron Hydrochloride



Column: ChromCore CN, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 50/50 v/v MeOH/0.25% (v/v) triethylamine in 50 mM sodium acetate solution
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Injection: 20 µL
Detection: UV 302 nm
Peaks: 1. Photodegradation Product
2. Granisetron

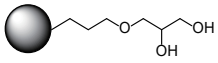
	R.T. (min)	Theoretical Plate (USP)	Trailing Factor (USP)	Resolution (USP)	Signal To Noise (S/N)
Photodegradation Product	7.100	4734	1.30	/	/
Granisetron	8.700	3126	1.85	3.10	21.1

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (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

For more information, please visit http://www.nanochrom.com

ChromCore™ HILIC-Diol Columns



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

Main Features

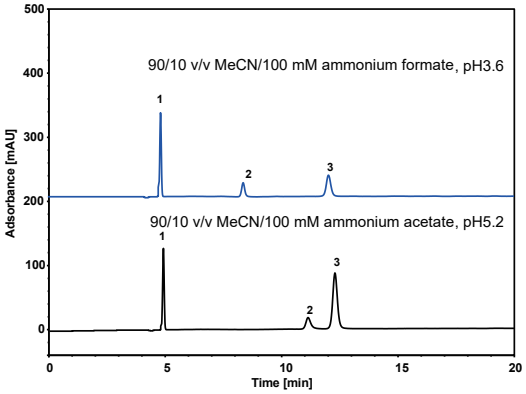
- Monodispersed, high-purity, porous, spherical silica particles for high column efficiency
- Suitable for separating compounds with intermediate to high polarity
- Suitable for both normal phase and HILIC conditions
- Good column-to-column consistency

Specifications

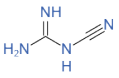
Product Name	ChromCore HILIC-Diol
Functional Group	Diol
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 & 5 µm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	10%
End-capped	No
Pressure Limit	5000 psi for 5 µm, 6000 psi for 3 µm
Temperature Limit	60 °C
pH Range	2-8
Aqueous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

Applications

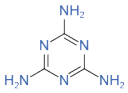
Metformin



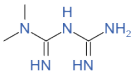
Column: ChromCore HILIC-Diol, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: See chromatogram
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 5 μL
Detection: UV 218 nm
Peaks: 1. Dicyandiamide
2. Metformin
3. Melamine



Dicyandiamide



Metformin



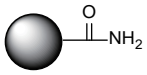
Melamine

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (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

For more information, please visit http://www.nanochrom.com

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

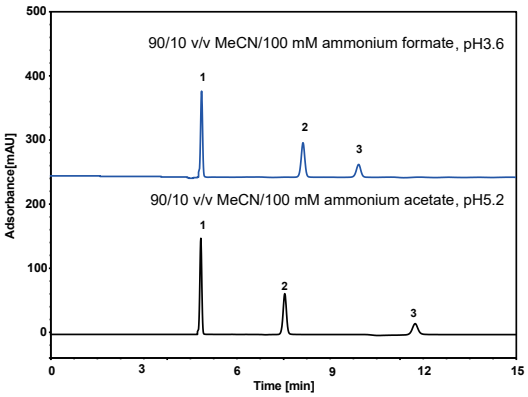
- Monodispersed, high-purity, porous silica particles for high column efficiency
- Unique selectivity for polar compounds
- Suited for small polar compounds and oligosaccharides analysis
- Good column-to-column consistency

Specifications

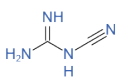
Product Name	ChromCore HILIC-Amide
Functional Group	Amide
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 & 5 µm
Pore Size	120 Å
Surface Area	300 m^2/g
Carbon Load	7%
End-capped	No
Pressure Limit	5000 psi for 5 µm, 6000 psi for 3 µm
Temperature Limit	60 ℃
pH Range	2-8
Aqueous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

Applications

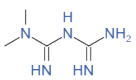
Metformin



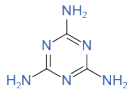
Column: ChromCore HILIC-Amide, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: See chromatogram
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 5 µL
Detection: UV 218 nm
Peaks: 1. Dicyandiamide
2. Melamine
3. Metformin



Dicyandiamide

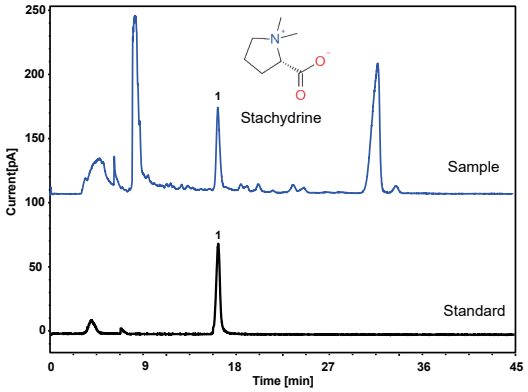


Melamine



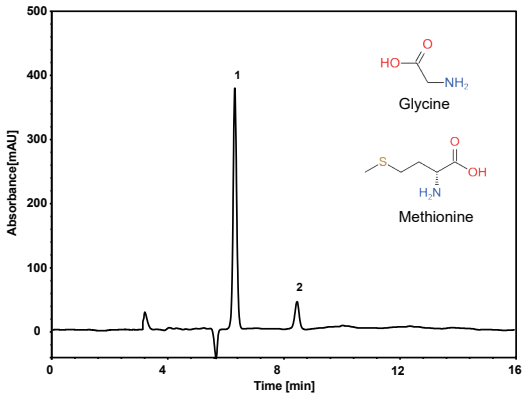
Metformin

Leonuri Herba



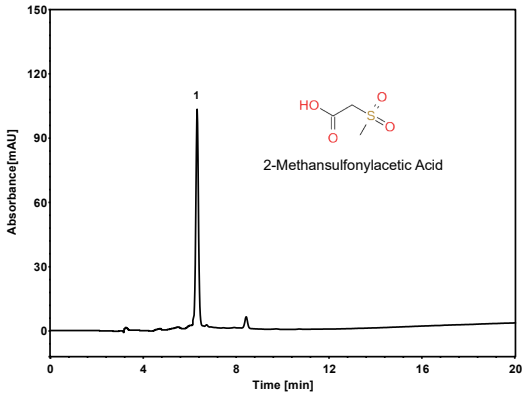
Column: ChromCore HILIC-Amide, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 80/20 v/v MeCN/0.2% acetic acid in H_2O
Flow Rate: 0.5 mL/min
Temperature: 20 ℃
Injection: 10 μL
Detection: CAD
Peak: 1. Stachydrine

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

2-Methansulfonylacetic Acid



Column: ChromCore HILIC-Amide, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: A) MeCN
B) 10 mM sodium dihydrogen phosphate in H_2O
Gradient:

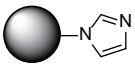
t(min)	%A	%B
0	10	90
15	90	10
20	90	10
20.1	10	90
40	10	90

Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 20 μL
Detection: UV 210 nm
Sample: 2-Methansulfonylacetic Acid (0.5 mg/ml dissolved in 50% MeCN solution)
Peak: 1. 2-Methansulfonylacetic Acid

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (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-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 for separating highly polar analytes in a broad range of applications.

Main Features

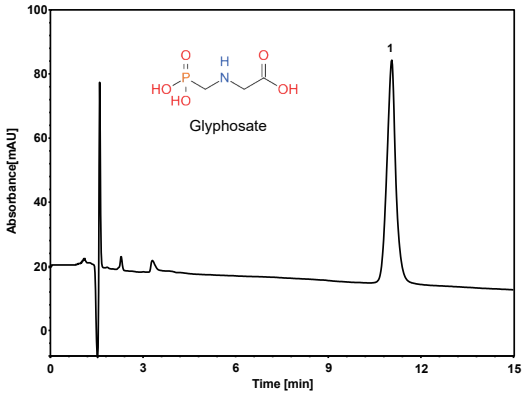
- Monodispersed, high-purity, porous silica particles for high column efficiency
- Unique selectivity based on HILIC and ion exchange mixed mode
- Suited for separating polar and anionic analytes
- Good column-to-column consistency

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 °C
pH Range	2-8
Aqueous Compatibility	100% aqueous

Applications

Glyphosate



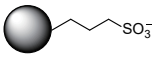
Columns: ChromCore HILIC-Imidazole, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 3/97 v/v MeOH/2 mM potassium dihydrogen phosphate in H_2O, pH1.9
Flow Rate: 1.5 mL/min
Temperature: 30 ℃
Injection: 10 µL
Detection: UV 195 nm
Peak: 1. Glyphosate (2 mg/mL)

Ordering Information

Product Name	Particle Size (µm)	Length (mm)	ID (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

For more information, please visit http://www.nanochrom.com

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

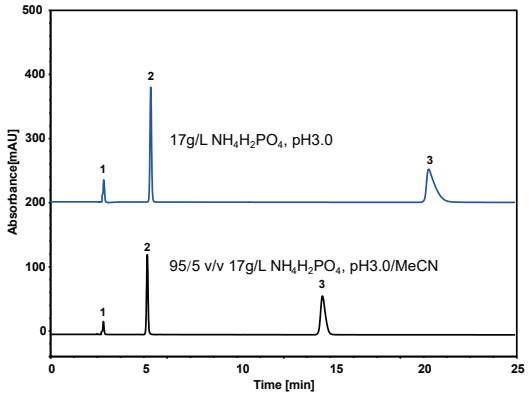
- Monodispersed, high-purity, porous silica particles for high column efficiency
- Suited for separating cationic analytes
- Good column-to-column consistency

Specifications

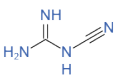
Product Name	ChromCore SCX	ChromCore 300 SCX
Functional Group	Sulfonate	
Substrate	Monodispersed, porous, spherical silica particles	
Particle Size	3 & 5 μm	
Pore Size	120 Å	300 Å
Surface Area	300 m^2/g	100 m^2/g
End-capped	No	
Pressure Limit	5000 psi for 5 μm 6000 psi for 3 μm	
Temperature Limit	60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

Applications

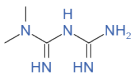
Metformin



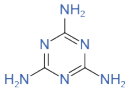
Column: ChromCore 300 SCX, 5 μm
Dimension: 4.6×250 mm
Mobile Phase:
Blue: 17 g/L ammonium dihydrogen phosphate in H_2O, pH3.0
Black: 95/5 v/v 17 g/L ammonium dihydrogen phosphate in H_2O, pH3.0/MeCN
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 5 μL
Detection: UV 218 nm
Peaks: 1. Dicyandiamide
2. Melamine
3. Metformin



Dicyandiamide

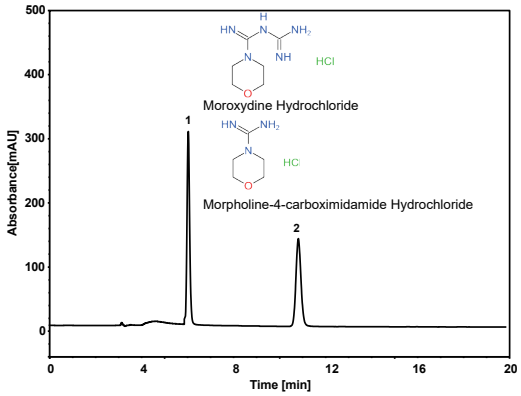


Melamine



Metformin

Moroxydine Hydrochloride



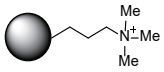
Column: ChromCore 300 SCX, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 10/90 v/v MeCN/150 mM ammonium dihydrogen phosphate in H_2O, pH2.5
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 2 μL
Detection: UV 198 nm
Peaks: 1. Morpholine-4-carboximidamide Hydrochloride
2. Moroxydine Hydrochloride

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (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

For more information, please visit http://www.nanochrom.com

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

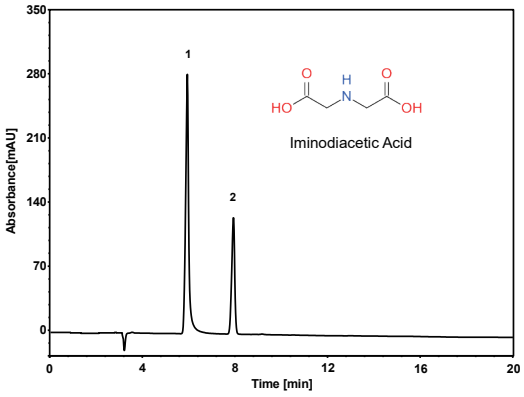
- Monodispersed, high-purity, porous silica particles for high column efficiency
- Suited for separating anionic analytes
- Good column-to-column consistency

Specifications

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

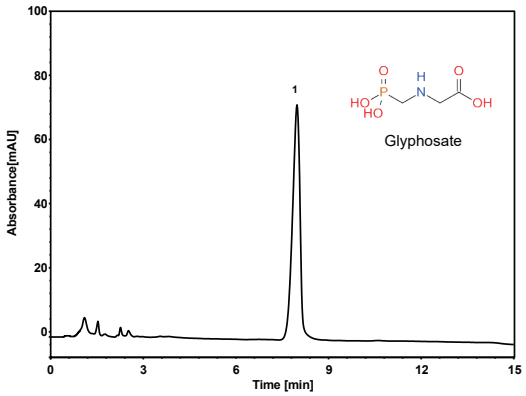
Applications

Iminodiacetic Acid



Column: ChromCore SAX, 5 µm
Dimension: 4.6×250 mm
Mobile Phase: 30 mM potassium dihydrogen phosphate in H_2O, pH6.0
Flow Rate: 1.0 mL/min
Temperature: 27 ℃
Injection: 10 µL
Detection: UV 195 nm
Peaks: 1. Iminodiacetic acid
2. Cl^-

Glyphosate



Column: ChromCore SAX, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 3/97 v/v MeOH/2 mM potassium dihydrogen phosphate in H_2O, pH1.9
Flow Rate: 1.5 mL/min
Temperature: 30 ℃
Injection: 10 μL
Detection: UV 195 nm
Peak: 1. Glyphosate (2 mg/mL)

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (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

For more information, please visit http://www.nanochrom.com

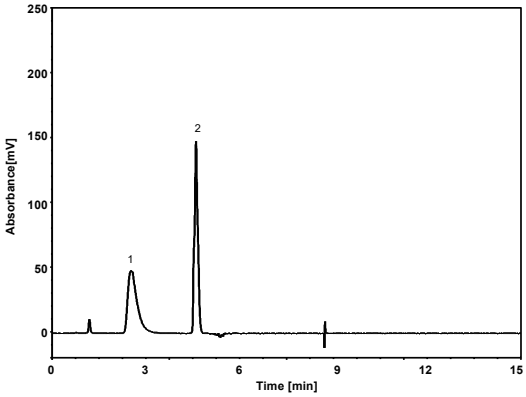
ChromCore™ Application-Specific Columns

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

ChromCore™ SAA

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

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:

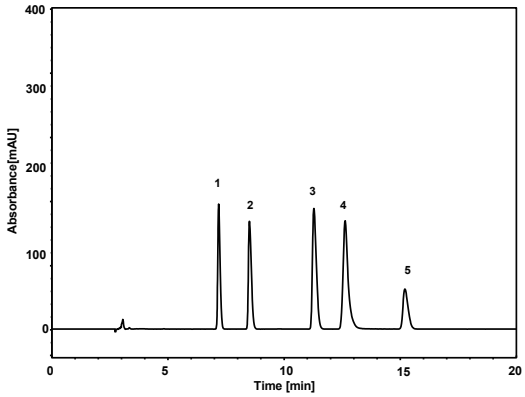
t(min)	%A	%B
0	80	20
0.1	80	20
0.2	66	34
2.6	66	34
2.7	0	100
6.7	0	100
6.8	80	20
15	80	20

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

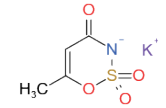
ChromCore™ C18-P

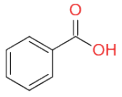
Designed for preservatives analysis in foods and beverages.

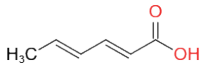
Five Common Preservatives

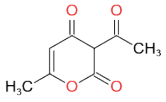


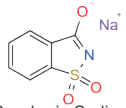
Column: ChromCore C18-P, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 95/5 v/v 20 mM ammonium acetate in H_2O, pH6.9/MeOH
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 5 μL
Detection: UV 230 nm
Diluter: H_2O
Peaks: 1. Acesulfame Potassium
2. Benzoic Acid
3. Sorbic Acid
4. Dehydroacetic Acid
5. Saccharin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


Acesulfame Potassium


Benzoic Acid


Sorbic Acid


Dehydroacetic Acid


Saccharin Sodium

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (mm)
			4.6
ChromCore SAA	5	250	S014-050018-04625S
		150	S014-050018-04615S

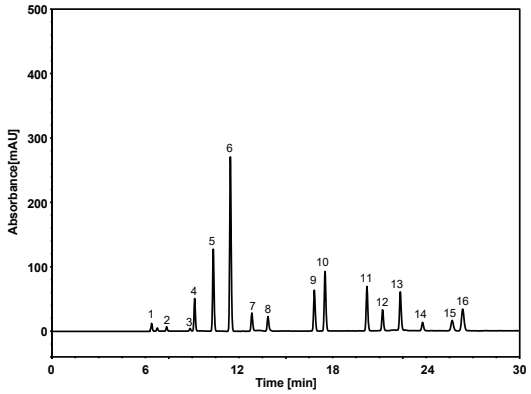
Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (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.

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

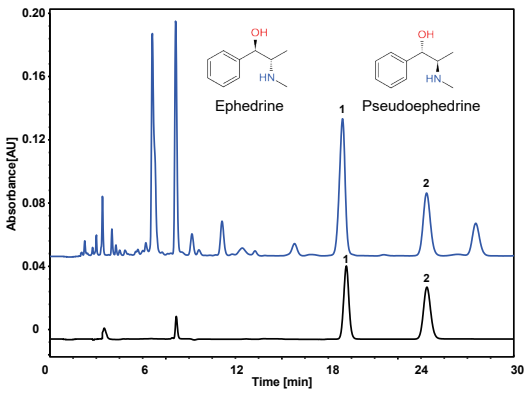
Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (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.

Ephedrine

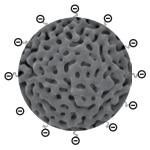


Column: ChromCore Ephedra, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 1.5/98.5 v/v MeOH/0.092% phosphoric acid in H_2O containing 0.04% triethylamine and 0.02% dibutylamine
Flow Rate: 1.0 mL/min
Temperature: 30 ℃
Injection: 10 μL
Detection: UV 210 nm
Samples:
Blue: System suitability solution
Black: Standards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

Ordering Information

Product Name	Particle Size(μm)	Length (mm)	ID (mm)
			4.6
ChromCore Ephedra	5	250	S011-050012-04625S

ChromCore™ Sugar Columns



ChromCore Sugar columns are prepared from monodispersed spherical PS/DVB particles by a unique sulfonation process to generate H^+, Na^+, or Ca^{2+} forms for separating sugars, sugar alcohols, organic acids or their mixture.

Main Features

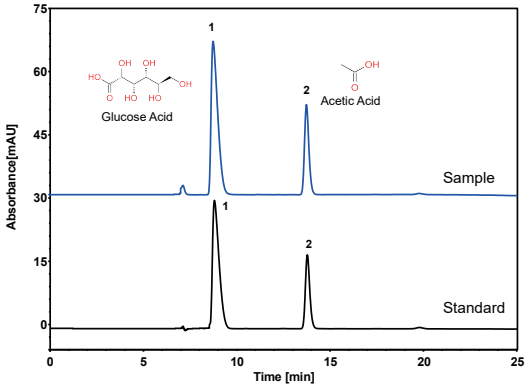
- Monodispersed, high-purity, porous silica particles for high column efficiency
- Three different forms for different applications
- Improved mechanical strength for longer column life
- Good column-to-column consistency

Specifications

Product Name	Sugar-10H	Sugar-10Ca	Sugar-10Na
Functional Group	$-SO_3H$	$-(SO_3)_2Ca$	$-SO_3Na$
Substrate	Monodispersed, high-purity, spherical PS/DVB particles		
Particle Size	6 & 8 μm		
Cross-linking	10%		
Pressure Limit	1200 psi		
Temperature Limit	95 °C		
Operating pH Range	1-3	5-9	5-9

Applications

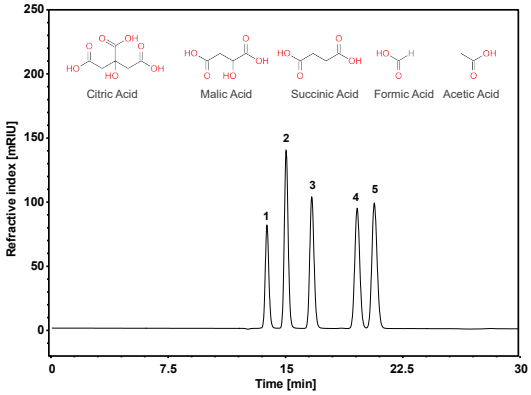
Multiple Electrolytes Injection



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

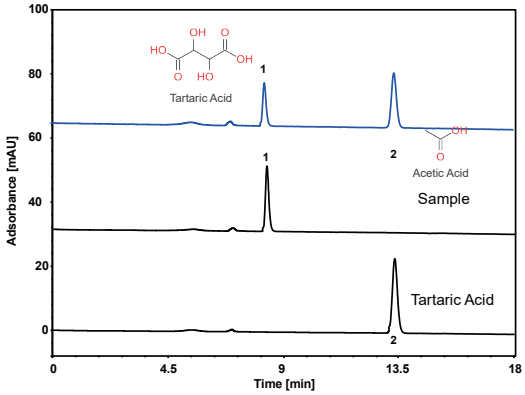
	R.T. (min)	Theoretical Plate	Tailing Factor	Resolution	Peak Area	Peak Height
Glucose Acid	8.799	2811	1.90	/	886504	36446
Acetic Acid	13.767	16158	1.22	8.88	345759	21059

Organic Acids



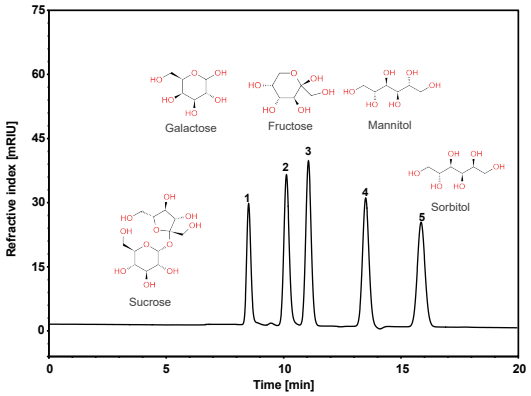
Column: ChromCore Sugar-10H, 6 μm
Dimension: 7.8×300 mm
Mobile Phase: 9 mM H_2SO_4 in H_2O
Flow Rate: 0.5 mL/min
Temperature: 65 ℃
Injection: 5 μL
Detection: RID
Peaks:
1. Citric Acid
2. Malic Acid
3. Succinic Acid
4. Formic Acid
5. Acetic Acid

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

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
Peaks:
1. Sucrose
2. Galactose
3. Fructose
4. Mannitol
5. Sorbitol

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (mm)	
			7.8	4.6
ChromCore Sugar-10H	8	300	A017-080010-07830S	/
		250	/	A017-080010-04625S
	6	300	A017-060010-07830S	/
		250	/	A017-060010-04625S
ChromCore Sugar-10Ca	8	300	A019-080010-07830S	/
		250	/	A019-080010-04625S
	6	300	A019-060010-07830S	/
		250	/	A019-060010-04625S
ChromCore Sugar-10Na	8	300	A058-080010-07830S	/
		250	/	A058-080010-04625S
	6	300	A058-060010-07830S	/
		250	/	A058-060010-04625S

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 and mechanical strength
- Excellent chromatography performance for symmetrical peaks
- Low column bleed and good MS compatibility
- Good column-to-column consistency

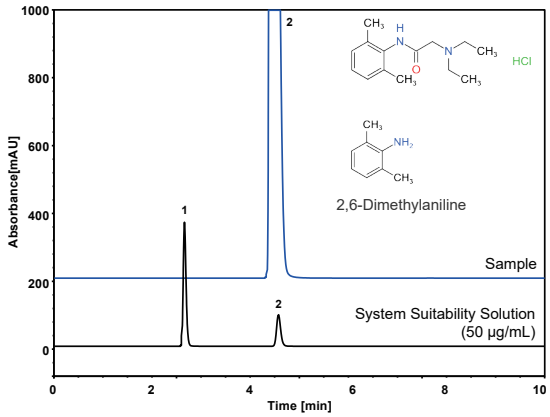
Specifications

Product Name	ChromCore 120 C18	ChromCore AQ C18	ChromCore 120 C8	ChromCore AQ C8
Functional Group	Octadecyl		Octyl	
Substrate	Monodispersed, porous, spherical silica particles			
Particle Size	1.8 μm			
Pore Size	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
Carbon Load	17%	13%	10%	7%
End-capped	Yes			
Pressure Limit	12000 psi			
Temperature Limit	60 ℃			
pH Range	2-10			

Applications

≫ ChromCore 120 C18

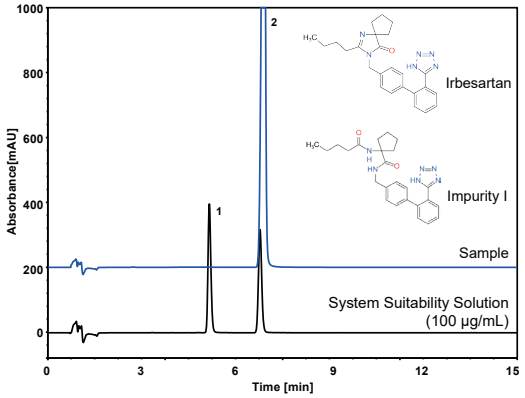
Lidocaine Hydrochloride



Column: ChromCore 120 C18, 1.8 μm
Dimension: 2.1×100 mm
Mobile Phase: 50/50 v/v MeCN/17.6 mM phosphate buffer, pH8.0
Flow Rate: 0.25 mL/min
Temperature: 25 ℃
Injection: 5 μL
Detection: UV 230 nm
Peaks: 1. Impurity I (2,6-Dimethylaniline)
2. Lidocaine

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Impurity I	2.653	10219	1.25	/	/
Lidocaine	4.570	14212	1.18	14.84	130.7

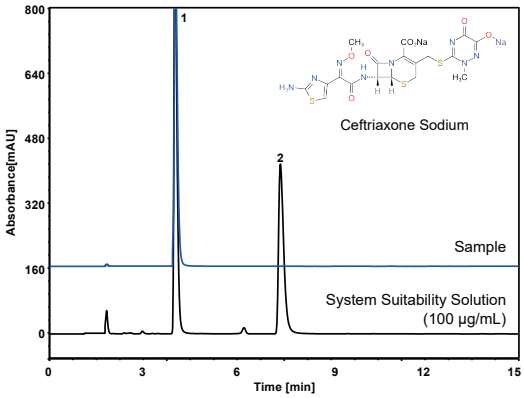
Irbesartan



Column: ChromCore 120 C18, 1.8 μm
Dimension: 2.1×100 mm
Mobile Phase: 38/62 v/v MeCN/ 1% phosphoric acid in H_2O, pH3.2
Flow Rate: 0.25 mL/min
Temperature: 25 ℃
Injection: 2 μL
Detection: UV 220 nm
Peaks: 1. Impurity I
2. Irbesartan

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Impurity I	5.153	14905	1.15	/	/
Irbesartan	6.777	20381	1.08	9.05	14.6

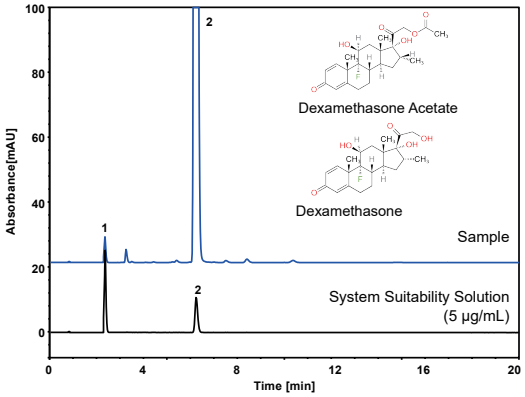
Ceftriaxone Sodium



Column: ChromCore 120 C18, 1.8 μm
Dimension: 2.1×100 mm
Mobile Phase: 27/73 v/v MeCN/0.02 mol/L octylamine solution, pH6.5
Flow Rate: 0.25 mL/min
Temperature: 25 ℃
Injection: 20 μL
Detection: UV 254 nm
Peaks: 1. Ceftriaxone
2. Trans-isomer of Ceftriaxone

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Ceftriaxone	4.000	8068	1.68	/	20.9
Trans-isomer of Ceftriaxone	7.373	9966	1.71	14.25	/

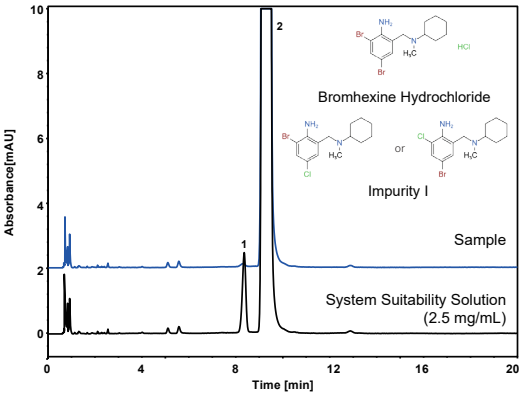
Dexamethasone



Column: ChromCore 120 C18, 1.8 μm
Dimension: 2.1×100 mm
Mobile Phase: 40/60 v/v MeCN/H_2O
Flow Rate: 0.3 mL/min
Temperature: 25 ℃
Injection: 5 μL
Detection: UV 240 nm
Peaks: 1. Dexamethasone
2. Dexamethasone Acetate

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Dexamethasone	2.334	7309	1.38	/	/
Dexamethasone Acetate	6.220	14020	1.21	24.34	55.2

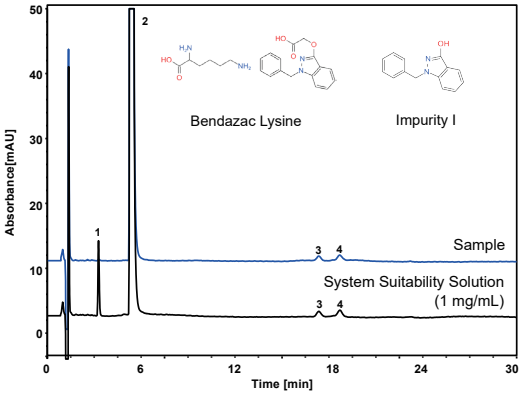
Bromhexine Hydrochloride



Column: ChromCore 120 C18, 1.8 μm
Dimension: 2.1×100 mm
Mobile Phase: 80/20 v/v MeCN/8.2 mM potassium dihydrogen phosphate pH7.0 adjusted by sodium hydroxide solution
Flow Rate: 0.3 mL/min
Temperature: 40 ℃
Injection: 1 μL
Detection: UV 245 nm
Peaks: 1. Impurity I
2. Bromhexine Hydrochloride

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Impurity I	8.057	21276	1.04	/	/
Bromhexine	9.003	22926	1.00	4.13	46.4

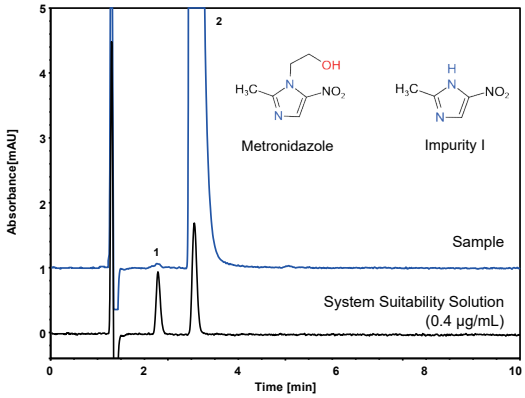
Bendazac Lysine



Column:	ChromCore 120 C18, 1.8 μm
Dimension:	2.1×100 mm
Mobile Phase:	47/53 v/v MeCN/100 mM acetic acid solution, pH2.88
Flow Rate:	0.2 mL/min
Temperature:	25 ℃
Injection:	2 μL
Detection:	UV 227 nm
Peaks:	1. Impurity I 2. Bendazac Lysine 3. Impurity 1 4. Impurity 2

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Impurity I	3.247	7758	1.21	/	/
Bendazac Lysine	5.333	9589	1.28	11.42	18.7
Impurity 1	17.340	12971	1.09	29.04	/
Impurity 2	18.697	17146	0.78	2.30	/

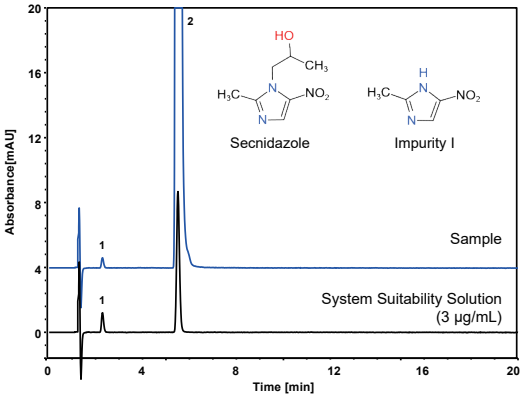
Metronidazole



Column:	ChromCore 120 C18, 1.8 μm
Dimension:	2.1×100 mm
Mobile Phase:	20/80 v/v MeOH/H_2O
Flow Rate:	0.2 mL/min
Temperature:	40 ℃
Injection:	2 μL
Detection:	UV 315 nm
Peaks:	1. Imupurity I 2. Metronidazole

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Impurity I	2.270	3041	1.23	/	/
Metronidazole	3.047	4304	1.21	4.43	22.5

Secnidazole

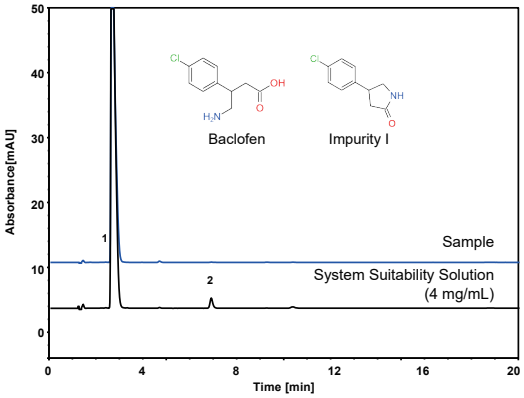


Column:	ChromCore 120 C18, 1.8 μm
Dimension:	2.1×100 mm
Mobile Phase:	20/80 v/v MeOH/H_2O
Flow Rate:	0.2 mL/min
Temperature:	40 ℃
Injection:	2 μL
Detection:	UV 318 nm
Peaks:	1. Impurity I 2. Secnidazole

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Impurity I	2.273	2904	1.20	/	/
Secnidazole	5.493	9455	1.17	16.32	22.6

>> ChromCore AQ C18

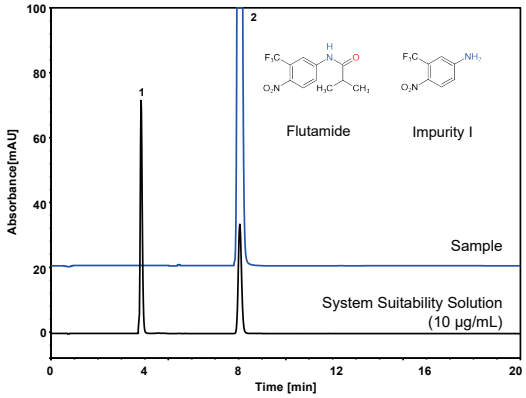
Baclofen



Column: ChromCore AQ C18, 1.8 μm
Dimension: 2.1×100 mm
Mobile Phase: 55/44/2 v/v/v 0.3 M acetic acid solution/MeOH/0.36 M sodium pentanesulfonate solution
Flow Rate: 0.208 mL/min
Temperature: 25 ℃
Injection: 2 μL
Detection: UV 265 nm
Peaks: 1. Baclofen
2. Impurity I

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Baclofen	2.638	1392	2.53	/	33.4
Impurity I	6.872	17178	1.30	17.19	/

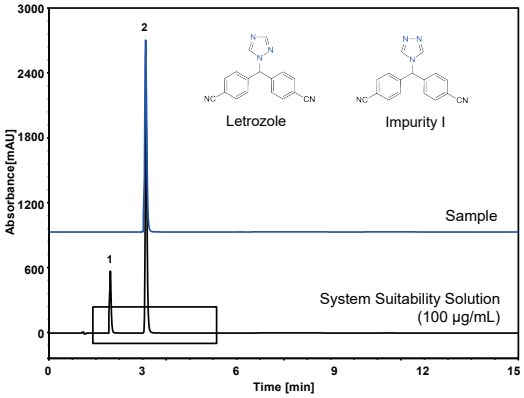
Flutamide



Column: ChromCore AQ C18, 1.8 μm
Dimension: 2.1×100 mm
Mobile Phase: 55/45 v/v H_2O/MeCN
Flow Rate: 0.208 mL/min
Temperature: 25 ℃
Injection: 5 μL
Detection: UV 240 nm
Peaks: 1. Impurity I
2. Flutamide

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Impurity I	3.825	9666	1.25	/	/
Flutamide	8.035	15538	1.12	20.37	45.4

Letrozole



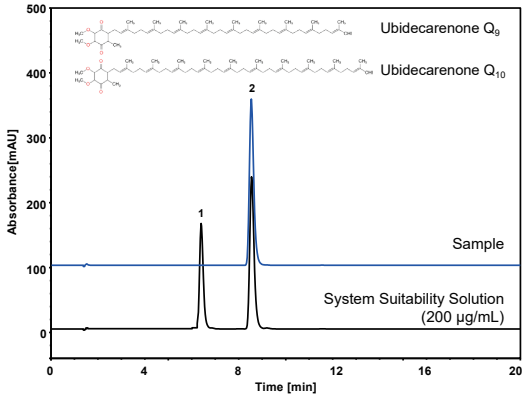
Column: ChromCore AQ C18, 1.8 μm
Dimension: 2.1×100 mm
Mobile Phase: A) H_2O
B) MeCN

Gradient:	t(min)	%A	%B
	0	60	40
	5	20	80
	5.1	60	40
	15	60	40

Flow Rate: 0.25 mL/min
Temperature: 25 ℃
Injection: 5 μL
Detection: UV 230 nm
Peaks: 1. Impurity I
2. Letrozole

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Impurity I	1.950	9906	1.36	/	/
Letrozole	3.087	14119	1.35	12.47	29.2

Ubidecarenone Q_{10}

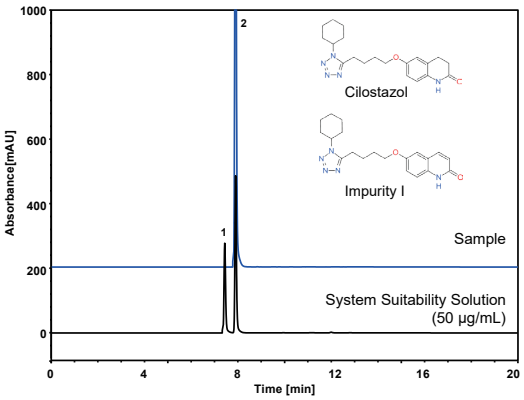


Column: ChromCore AQ C18, 1.8 μm
Dimension: 2.1×100 mm
Mobile Phase: 50/50 v/v MeOH/EtOH
Flow Rate: 0.2 mL/min
Temperature: 25 ℃
Injection: 2 μL
Detection: UV 275 nm
Peaks: 1. Ubidecarenone Q_9
2. Ubidecarenone Q_{10}

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Ubidecarenone Q_9	6.387	7975	1.34	/	/
Ubidecarenone Q_{10}	8.540	10376	1.30	6.93	18.5

ChromCore 120 C8

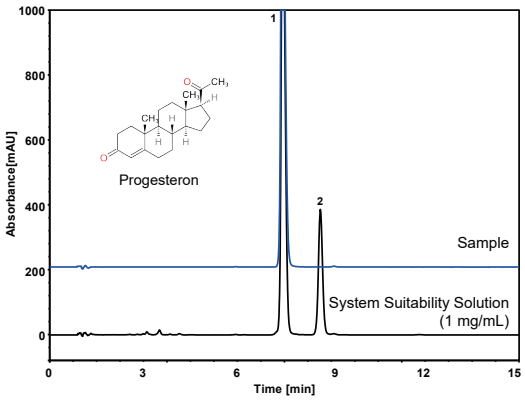
Cilostazol



Column:	ChromCore 120 C8, 1.8 μm
Dimension:	2.1×100 mm
Mobile Phase:	A) H_2O
	B) MeCN
Gradient:	t(min) %A %B
	0 70 30
	2 60 40
	5 30 70
	10 30 70
	11 70 30
	20 70 30
Flow Rate:	0.25 mL/min
Temperature:	40 ℃
Injection:	5 μL
Detection:	UV 254 nm
Peaks:	1. Impurity I
	2. Cilostazol

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Impurity I	7.427	60540	1.24	/	/
Cilostazol	7.893	73247	1.21	3.93	19.7

Progesterone



Column:	ChromCore 120 C8, 1.8 μm
Dimension:	2.1×100 mm
Mobile Phase:	25/35/40 v/v/v MeOH/MeCN/H_2O
Flow Rate:	0.25 mL/min
Temperature:	25 ℃
Injection:	2 μL
Detection:	UV 241 nm
Peaks:	1. Progesterone
	2. Degradation products

	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Progesterone	7.440	17828	1.30	/	23.3
Degradation products	8.647	20443	1.05	5.19	/

Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (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 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

For more information, please visit http://www.nanochrom.com

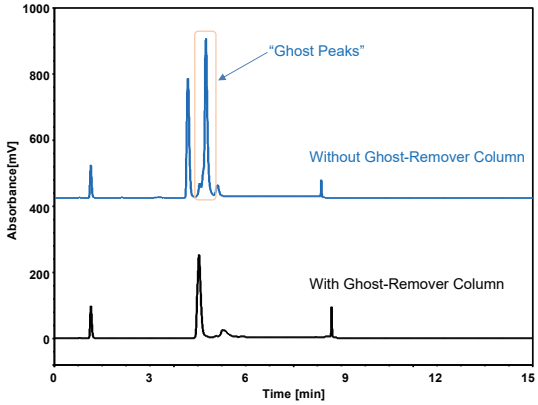
NanoChrom™ Ghost-Remover Columns

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.

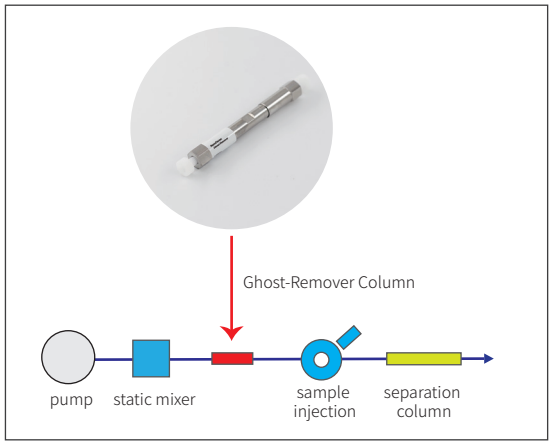
Main Features

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

Applications



Columns:	ChromCore SAA, 5 μm, 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)		
Samples:	Tween 20		



Installation

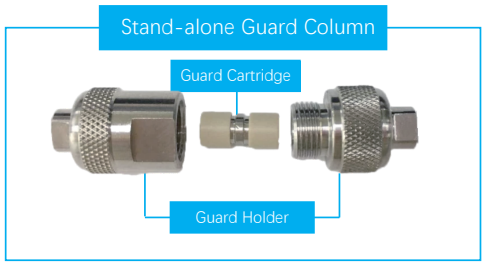
Ordering Information

Product Name	Length (mm)	ID (mm)		
		4.6	3.0	2.1
NanoChrom Ghost-Remover	50	GR4605S	GR3005S	GR2105S
	30	/	/	GR2103S
NanoChrom Ghost-Remover (UHPLC)	50	/	/	GR2105S-U

Guard Columns

NanoChrom provides various guard columns/cartridges for ChromCore and BioCore analytical, semi-preparative and preparative columns to efficiently extend column lifetimes.

A stand-alone guard column consists of a holder and a guard cartridge (see figure below).



Ordering Information

Guard Holder

Product Name	P/N
Guard Holder (Stand-alone)	Guard-HPLC-A1

Guard Cartridge

Product Name	Particle Size (µm)	Length (mm)	ID (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	A001-030012-03001S-B1	A001-030012-02101S-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 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)	ID (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 NH2	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
ChromCoreHILIC-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-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 Sugar-10H	8	10	A017-080010-04601S-B1	/	/
	6		A017-060010-04601S-B1	/	/
ChromCore Sugar-10Ca	8	10	A019-080010-04601S-B1	/	/
	6		A019-060010-04601S-B1	/	/
ChromCore Sugar-10Na	8	10	A058-080010-04601S-B1	/	/
	6		A058-060010-04601S-B1	/	/

Preparative Columns

NanoChrom provides a selection of semi-preparative columns and preparative columns for easy scale-up from analytical scales. Various stationary phases are available for both small-molecule and large-molecule separations.

Main Features

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

Ordering Information

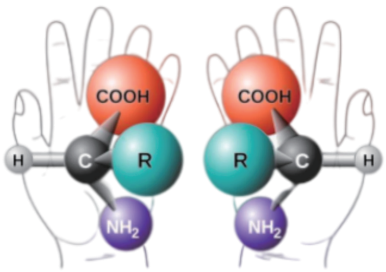
Product Name	Particle Size (μm)	Length (mm)	ID (mm)	
			10	20
BioCore SEC-120	5	300	/	B213-050012-20030S
		250	/	B213-050012-20025S
BioCore SEC-150	5	300	/	B213-050015-20030S
		250	/	B213-050015-20025S
BioCore SEC-300	5	300	/	B213-050030-20030S
		250	/	B213-050030-20025S
BioCore SEC-500	5	300	/	B213-050050-20030S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

Product Name	Particle Size (μm)	Length (mm)	ID (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 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 NH2	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-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

NanoChrom

Chiral HPLC Columns

UniChiral® HPLC Columns



UniChiral CND
UniChiral CNJ
UniChiral CNZ
UniChiral CMS
UniChiral CMD
UniChiral CMZ

NANOCHROM

NanoChrom Technologies (Suzhou) Co., Ltd

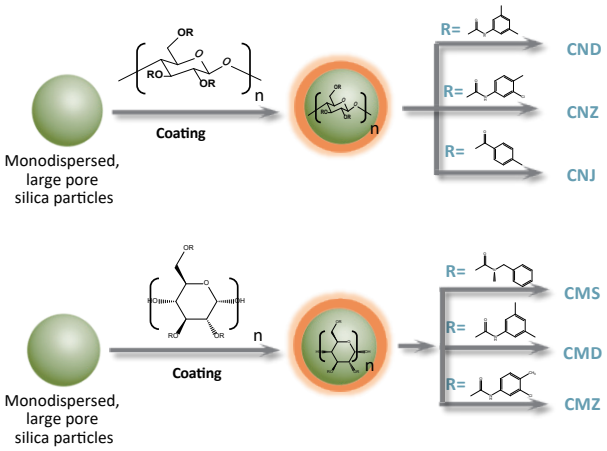
www.nanochrom.com

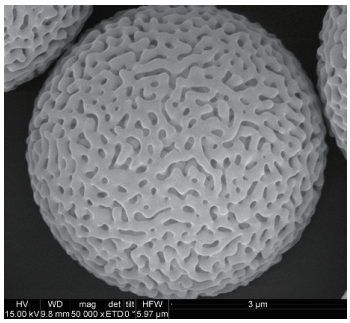
UniChiral® HPLC Columns

UniChiral® is a family of Chiral HPLC columns for analytical and semi-preparative purification applications, based on unique silica matrix with monodispersed particle size and large pore morphology. This product line includes CND, CNJ, CNZ, CMS, CMD, and CMZ, which employs Cellulose and Amylose as the surface coating followed by derivatization of various chiral selectors. These columns provide a variety of complementary selectivity that allow for effective chiral separation and purification.

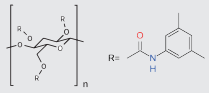
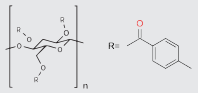
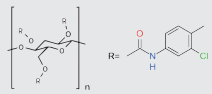
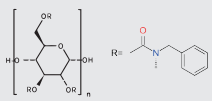
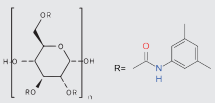
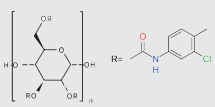
Main Features

- High enantioselectivity and column efficiency
- Good mechanical strength for extended column life time
- A host of selectivity selection for broad application range
- Satisfactory performance at economical costs



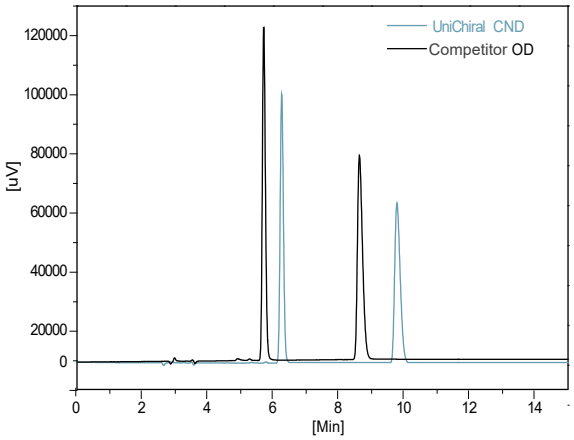


SEM of UniChiral particles

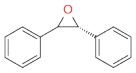
Product Name	Surface Functional Groups		Column Specification
UniChiral CND		Cellulosetris(3,5-dimethylphenylcarbamate)	5 µm, 4.6×50 mm 5 µm, 4.6×100 mm 5 µm, 4.6×150 mm 5 µm, 4.6×250 mm
UniChiral CNJ		Cellulosetris(4-methylbenzoate)	
UniChiral CNZ		Cellulosetris(3-chloro-4-methylbenzylcarbamate)	
UniChiral CMS		Amylosetris[(S)-α-methylbenzylcarbamate)	
UniChiral CMD		Amylosetris(3,5-dimethylphenylcarbamate)	
UniChiral CMZ		Amylosetris(3-chloro-4-methylbenzylcarbamate)	

Applications

Trans-Stilbene oxide

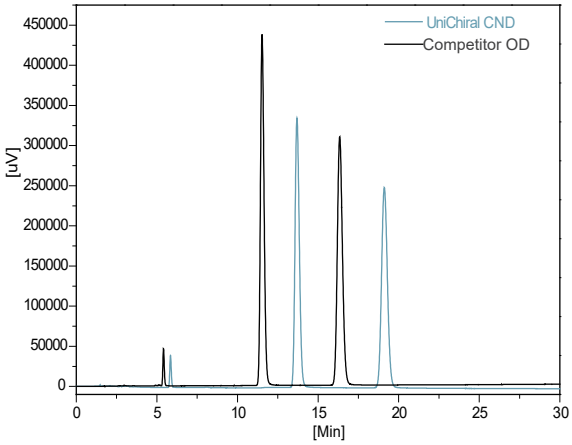


Column: UniChiral CND, 5 μm
Dimension: 4.6×250 mm
Mobile Phase : 90/10 v/v Hexane/IPA
Flow Rate: 1 mL/min
Temperature: 25 ℃
Detection: UV 254 nm
Sample: Trans-Stilbene oxide

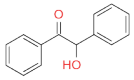


		Theoretical Plate (USP)	Tailing Factor (USP)	α
UniChiral CND	peak 1	16222	1.149	2.07
	peak 2	14779	1.345	
Competitor OD	peak 1	15267	1.214	2.07
	peak 2	13740	1.437	

Benzoin

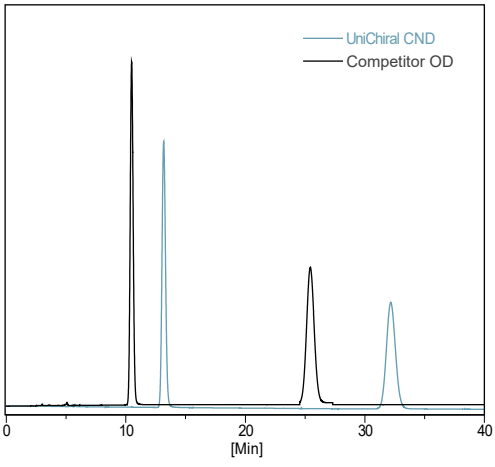


Column: UniChiral CND, 5 μm
Dimension: 4.6×250 mm
Mobile Phase : 90/10 v/v Hexane/IPA
Flow Rate: 1 mL/min
Temperature: 25 ℃
Detection: UV 254 nm
Sample: Benzoin

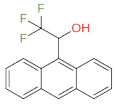


		Theoretical Plate (USP)	Tailing Factor (USP)	α
UniChiral CND	peak 1	11899	1.167	1.50
	peak 2	12707	1.114	
Competitor OD	peak 1	12219	1.197	1.56
	peak 2	12150	1.154	

2,2,2-Trifliuoro-1-(9-anthryl)ethanol

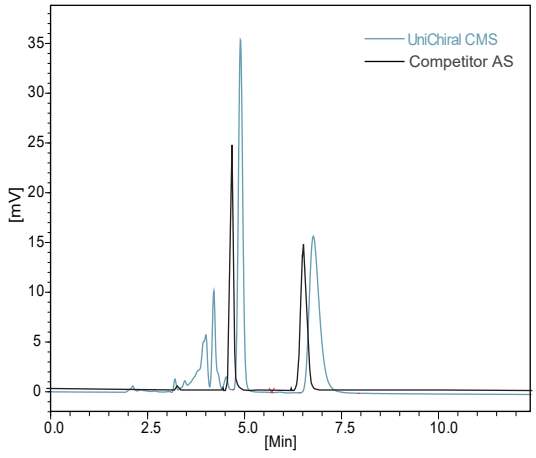


Column: UniChiral CND, 5 μm
Dimension: 4.6×250 mm
Mobile Phase : 90/10 v/v Hexane/IPA
Flow Rate: 1 mL/min
Temperature: 25 ℃
Detection: UV 254 nm
Sample: 2,2,2-Trifliuoro-1-(9-anthryl)ethanol

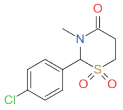


		Theoretical Plate (USP)	Tailing Factor (USP)	α
UniChiral CND	peak 1	9138	1.101	2.85
	peak 2	8287	1.066	
Competitor OD	peak 1	8300	1.090	2.99
	peak 2	7205	1.058	

Chlormezanone

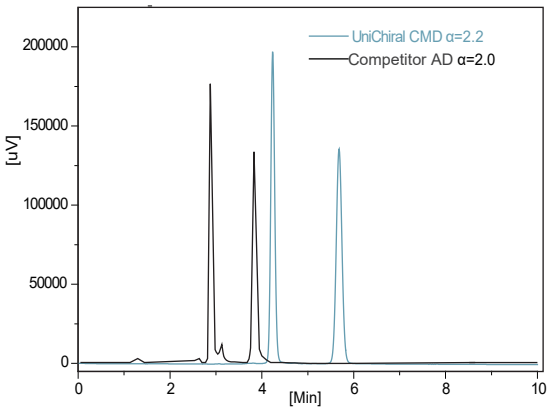


Column: UniChiral CMS, 5 μm
Dimension: 4.6×250 mm
Mobile Phase : Methanol
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Detection: UV 254 nm
Sample: Chlormezanone

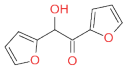


UniChiral CMD

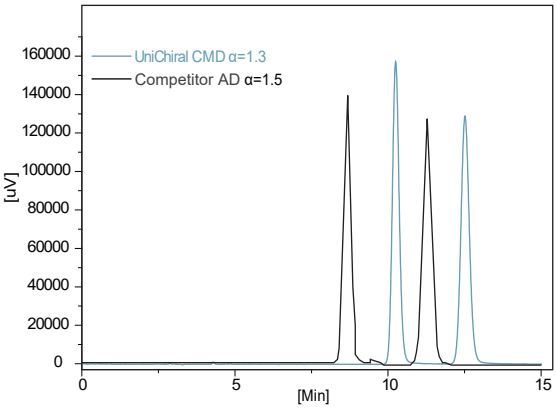
Furoin



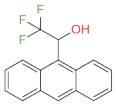
Column:	UniChiral CMD, 5 μm
Dimension:	4.6×250 mm
Mobile Phase :	EtOH
Flow Rate:	1 mL/min
Temperature:	25 ℃
Detection:	UV 270 nm
Sample:	Furoin



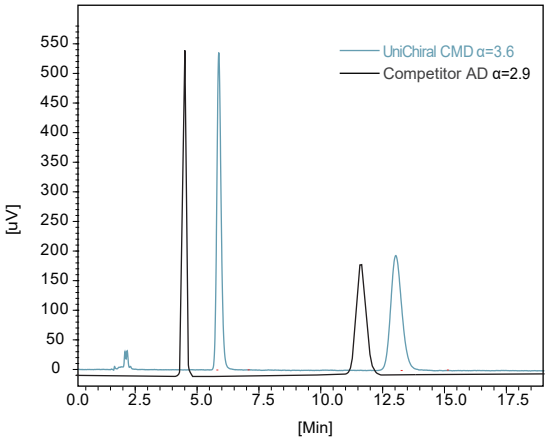
2,2,2-trifluoro-1-(9-anthryl)ethanol



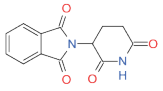
Column:	UniChiral CMD, 5 μm
Dimension:	4.6×250 mm
Mobile Phase :	Methanol
Flow Rate:	1 mL/min
Temperature:	25 ℃
Detection:	UV 270 nm
Sample:	2,2,2-trifluoro-1-(9-anthryl)ethanol



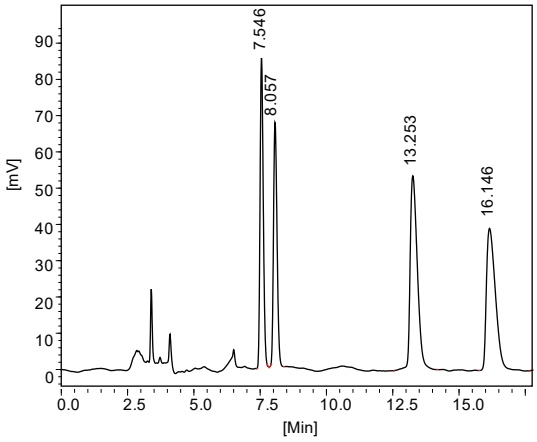
Thalidomide



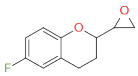
Column:	UniChiral CMD, 5 μm
Dimension:	4.6×150 mm
Mobile Phase :	Methanol
Flow Rate:	2 mL/min
Temperature:	25 ℃
Detection:	UV 220 nm
Sample:	Thalidomide



Rel-6-Fluoro-3,4-Dihydro-2-[2-Oxirnyl] -2H-1-Benzopyran

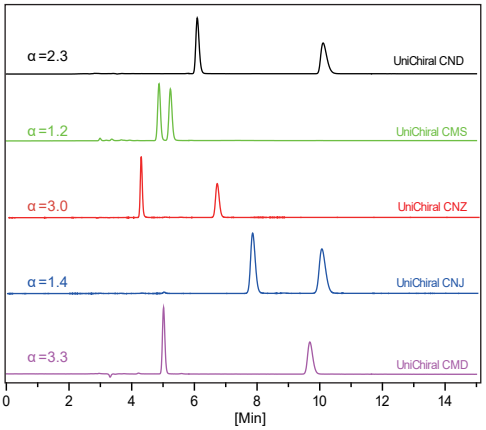


Column:	UniChiral CMD, 5 μm
Dimension:	4.6×250 mm
Mobile Phase :	97/3 v/v Hexane/Ethanol
Flow Rate:	1.0 mL/min
Temperature:	25 ℃
Detection:	UV 254 nm
Sample:	Rel-6-Fluoro-3,4-Dihydro-2-[2-Oxirnyl]-2H-1-Benzopyran

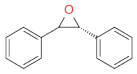


>> Optimization of Unichiral columns process conditions

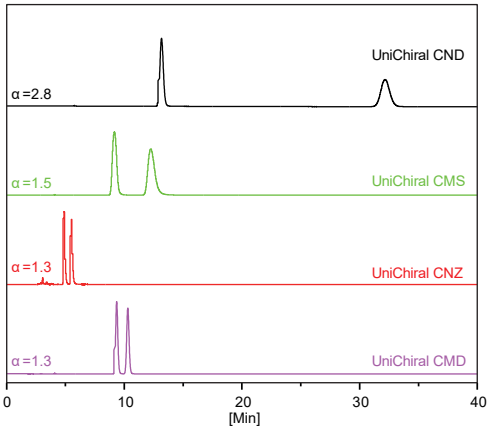
Trans-Stilbene oxide



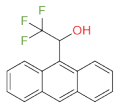
Columns: UniChiral columns, 5 μm
Dimension: 4.6×250 mm
Mobile Phase : 90/10 v/v Hexane/IPA
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Detection: UV 254 nm
Sample: Trans-Stilbene oxide



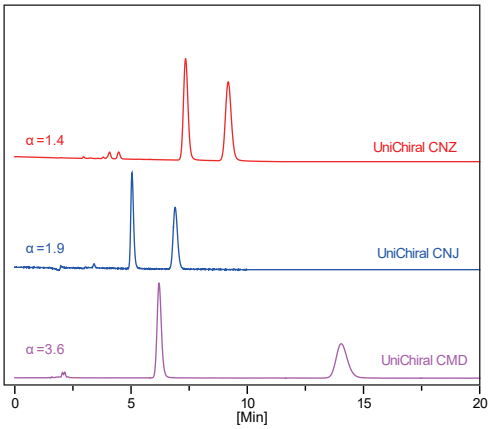
2,2,2-trifluoro-1-(9-Anthryl) Ethanol



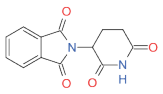
Columns: UniChiral columns, 5 μm
Dimension: 4.6×250 mm
Mobile Phase : 90/10 v/v Hexane/IPA
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Detection: UV 254 nm
Sample: 2,2,2-trifluoro-1-(9-Anthryl) Ethanol



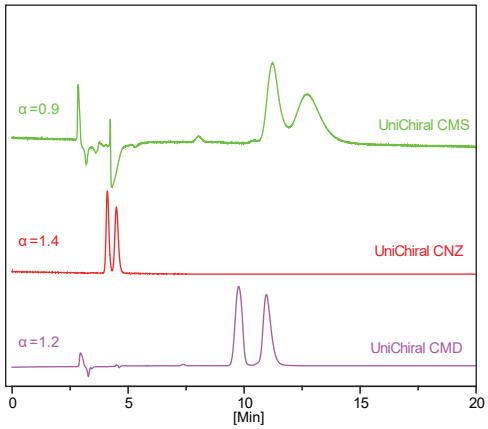
Thalidomide



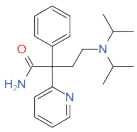
Columns: UniChiral columns, 5 μm
Dimension: 4.6×250 mm
Mobile Phase : MeOH
Flow Rate: 2.0 mL/min
Temperature: 25 ℃
Detection: UV 220 nm
Sample: Thalidomide



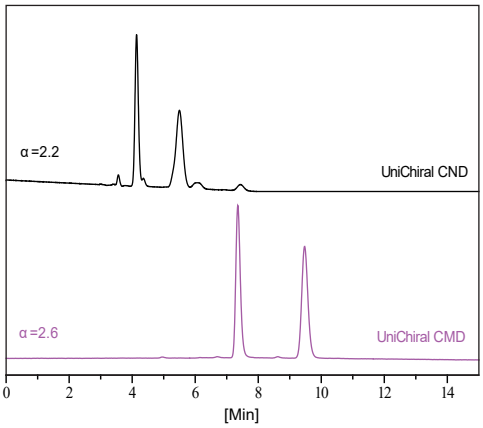
Disopyramide



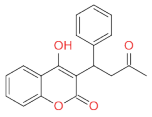
Columns: UniChiral columns, 5 μm
Dimension: 4.6×250 mm
Mobile Phase : 99.9/0.1 v/v EtOH/DEA
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Detection: UV 254 nm
Sample: Disopyramide



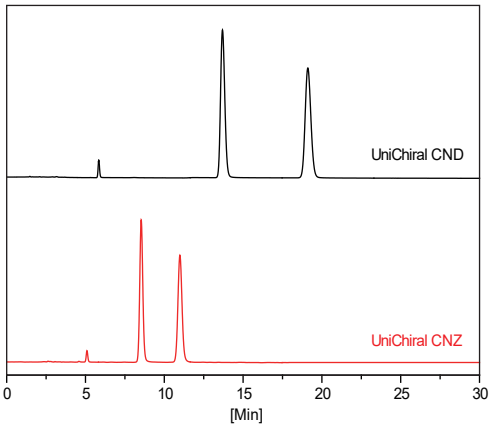
Warfarin



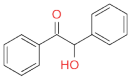
Column: UniChiral columns, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 99.9/0.1 v/v EtOH/HAC
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Detection: UV 254 nm
Sample: Warfarin



Benzoin



Column: UniChiral columns, 5 μm
Dimension: 4.6×250 mm
Mobile Phase : 80/20 v/v Hexane/EtOH
Flow Rate: 1.0 mL/min
Temperature: 25 ℃
Detection: UV 270 nm
Sample: Benzoin



Ordering Information

Product Name	Particle Size (μm)	Length (mm)	ID (mm)
			4.6
UniChiral CND	5	250	CAOD-050100-04625S
		150	CAOD-050100-04615S
		100	CAOD-050100-04610S
UniChiral CNJ	5	250	CAOJ-050100-04625S
		150	CAOJ-050100-04615S
		100	CAOJ-050100-04610S
UniChiral CNZ	5	250	CAOZ-050100-04625S
		150	CAOZ-050100-04615S
		100	CAOZ-050100-04610S
UniChiral CMD	5	250	CAAD-050100-04625S
		150	CAAD-050100-04615S
		100	CAAD-050100-04610S
UniChiral CMS	5	250	CAAS-050100-04625S
		150	CAAS-050100-04615S
		100	CAAS-050100-04610S
UniChiral CMZ	5	250	CAAZ-050100-04625S
		150	CAAZ-050100-04615S
		100	CAAZ-050100-04610S

NanoChrom

Sample Preparation Products

SelectCore™ SPE & QuEChERS

Sample Preparation Portfolio **111**
Solid Phase Extraction **112**
PVP-DVB Based SPE 114
PS-DVB Based SPE 120
Silica Based SPE 121
Affinity SPE 122
QuEChERS **123**

NANOCHROM

Sample Preparation Portfolio

SelectCore Sample Preparation Portfolio consists of a full range of SPE cartridges and QuEChERS products to meet various application demands.

Main features of NanoChrom Sample Preparation Products

- Large commercial scale manufacturing capability and dual production sites for security of supply
- World-leading monodispersed microsphere technology platform
- Proprietary expertise in controlling particle morphology and surface chemistry
- Strong R&D and application teams for sustainable innovation
- Rigorous quality assurance and customer-focused culture

◆ Solid Phase Extraction

PVP-DVB Matrix	PS-DVB Matrix	Silica Matrix	Inorganic Adsorbents
HLB	PSL	Silica	Florisil
MCX	PSS	C18	Alumina
MAX	PSCX	NH2	GCB
WCX	X3 GPC	PSA	PA
WAX		SCX	AC
		SAX	Celite

Affinity	Ion Chromatography	Multilayer	Application-specific
Heparin	IC-Ag	GCB/NH_2	BAP
AFT	IC-Na	GCB/PSA	DPT
OTA	IC-C18	C18/PSA	SDR
DON	IC-RP		HR-C18
ZEA			PSA/Silica
Protein A			
Protein G			

◆ QuEChERS

Extraction Salts	Clean-up Tubes
AOAC 2007.01 Method	General fruits and vegetables
EN-15662 EU Method	Highly pigmented fruits and vegetables
	Fruits and vegetables with fats and waxes
	Tea with high levels of chlorophyll
	Animal Origin Food

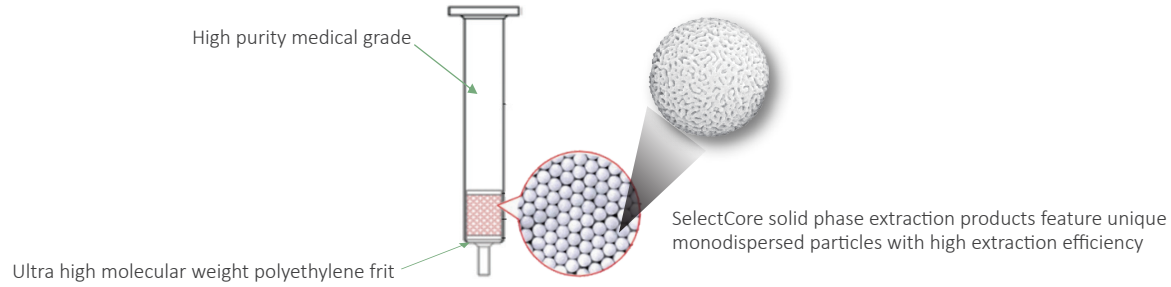
Solid Phase Extraction

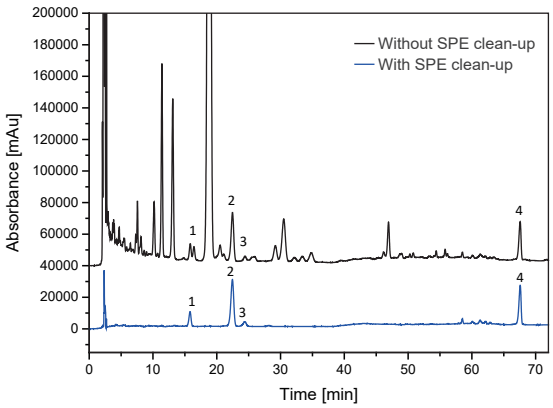
Solid Phase Extraction (SPE) is a sample preparation technique based on the selective partitioning of multi-components. SPE cartridges are commonly used in sample preparation and analysis of food, agriculture, cosmetics and environmental samples, etc.
Effective separation by SPE primarily depends on proper choice of the sorbent. NanoChrom offers a comprehensive portfolio of SPE products based on advanced monodispersed particle technology and surface chemistry to meet accurate quantification demands.

Benefits of SPE

- Improve the detection sensitivity by integrating sample enrichment and purification
- Remove sample interference that coelute with an analyte of interest
- Protect the analytical column from contaminants
- Save solvent compared with Liquid/Liquid Extraction

Components of NanoChrom SPE

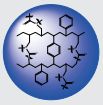
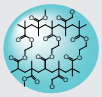
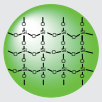




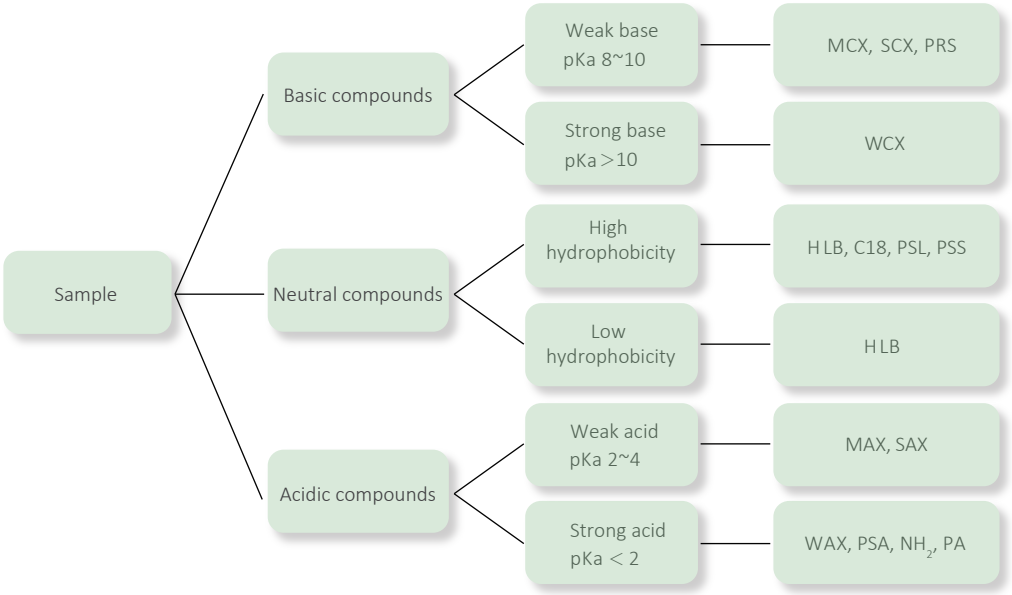
Herbal medicine sample HPLC analysis with or without SPE clean-up
SPE cartridge: SelectCore HR-C18 500mg/6mL

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		

Main Features of SelectCore SPE

	Matrix	Separation Mode	Product	Main Features
	PVP-DVB	Hydrophobic	HLB	Monodispersed matrix, hydrophilic and lipophilic, wide range of applications
		IEX	MCX, MAX WCX, WAX	
	PS-DVB	Hydrophobic	PSL, PSS	Monodispersed matrix, high hydrophobicity, high ability to adsorb impurities
		IEX	PSCX	
		SEC	X3	
	PMMA	Affinity	Heparin Protein A Protein G	Monodispersed matrix, good hydrophilicity for affinity
	Silica	Normal Phase	Silica, NH_2	High purity spherical silica, good selectivity, high resolution
		Reversed phase	C18	
		IEX	PSA, SCX, SAX	

SPE Product Selection Guide

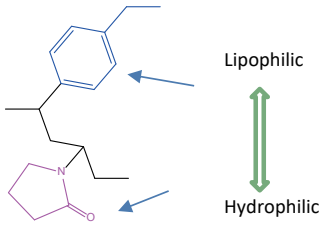


PVP-DVB based SPE

SelectCore HLB based on co-polymerization of N-vinylpyrrolidonre (hydrophilic) and divinylbenzene (hydrophobic), is designed for a broad range of compounds from aqueous samples. Due to its unique features such as monodispersed particles, good chemical and meachnical stability and optimized surface chemistry, SelectCore HLB is popularly employed in the sample preparation for advanced liquid and gas chromatography.

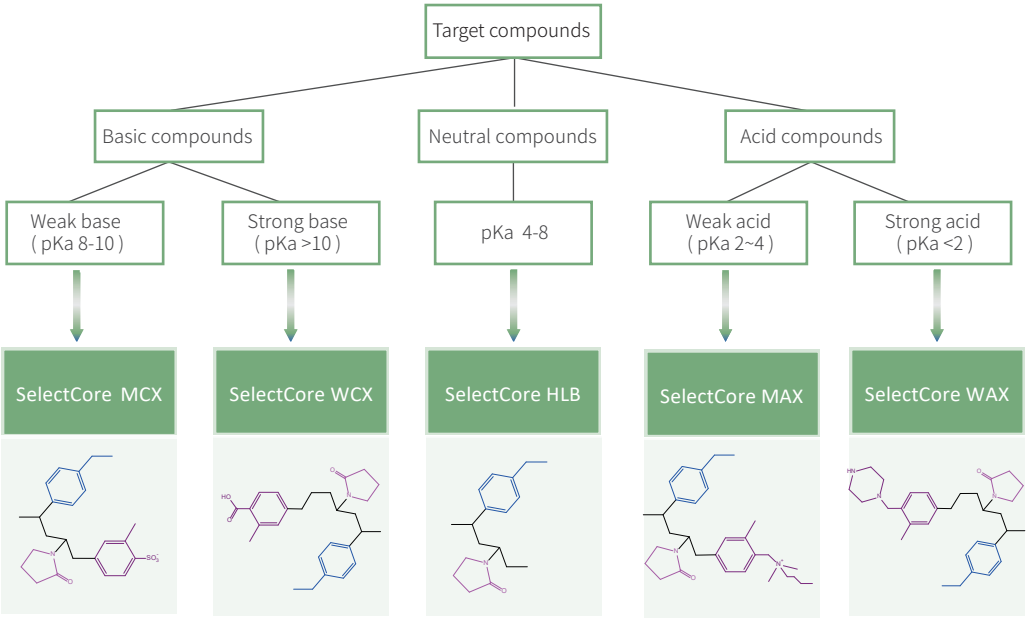
Main Features

- Optimized pore size distribution and surface functional group density
- Compressed adsorption and elution volume enable less solvent consumption
- Good recovery with a broad range of compounds from aqueous samples
- Good lot-to-lot consistency



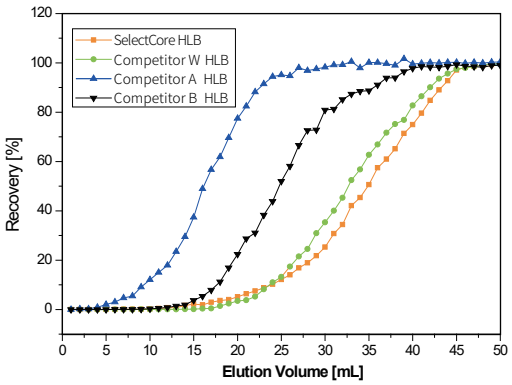
Hydrophilic-Lipophilic Balanced (HLB)

SelectCore PVP/DVB based SPE



01 High sample dynamic binding capacity

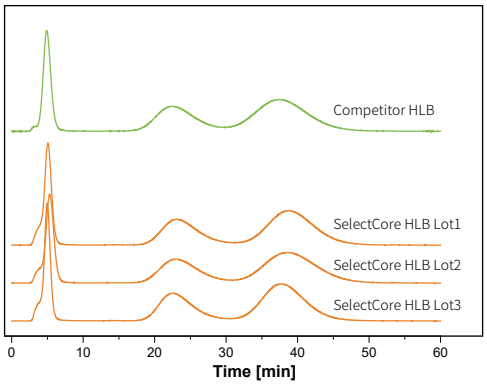
An important factor affecting the extraction efficiency in solid phase extraction procedure is the dynamic adsorption capacity and desorption capacity of the sorbent. Due to the unique monodispersed polymer matrix, SelecCore HLB exhibits high dynamic binding capacity.



SelectCore HLB dynamic binding capacity

02 Batch-to-batch reproducibility

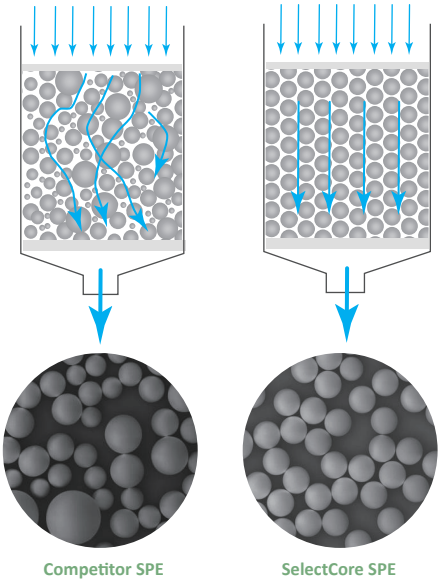
Based on the unique monodispersed polymer matrix, SelectCore HLB can provide more stable elution time and volume, hence reproducible results.



SelectCore HLB batch-to-batch reproducibility

03 Fast and stable drop speed

In SPE, the main factors affecting the column SPE drop speed are the particle size and particle size distribution of the sorbent. Because SelectCore HLB uses monodispersed spherical particles with narrower particle size distribution, the absence of fine particles can improve the flow rate and shorten the time for sample preparation.



04 Good recovery

Due to the use of monodispersed PVP/DVB particles, SelectCore HLB products exhibit good recovery with a broad range of compounds and results were highly reproducible across different product lots.

Compound by elution solvent	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

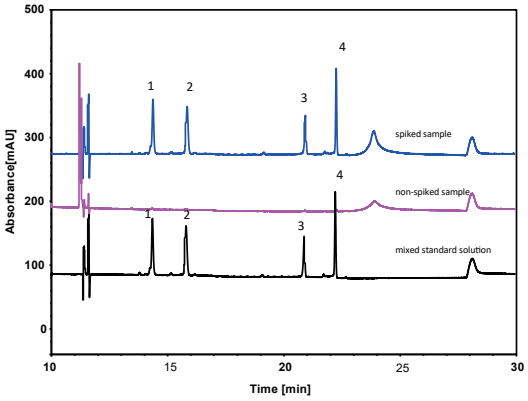
Recoveries of six analytes by SelectCore HLB sorbent

Applications

Antibiotic residue determination in egg

Egg samples were spiked with the oxytetracycline, tetracycline, chlortetracycline and doxycycline. The samples were then treated using SelectCore HLB 150mg/6mL cartridges.

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 D.I. (discard the effluent).
Elution	04	Elute the cartridge with 10 mL of methanol and collect the eluate.
Analysis	05	Evaporate and reconstitute.



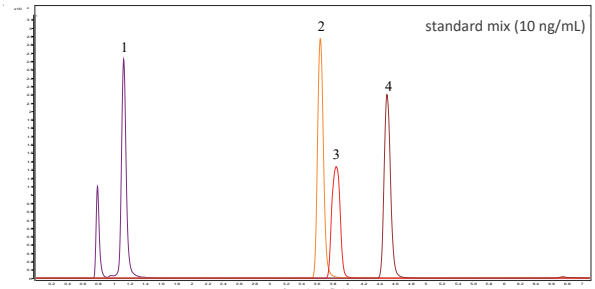
Column:	ChromCore C18, 3 μm		
Dimension:	4.6×150 mm		
Mobile Phase:	A）0.01 mol/L oxalic acid		
	B）MeCN		
Gradient:	t(min)	%A	%B
	0	85	15
	6	85	15
	15	70	30
	20	70	30
	22	85	15
	25	85	15
Flow Rate:	1.0 mL/min		
Temperature:	30 ℃		
Injection:	10 μL		
Detection:	UV 350 nm		
Peaks:	1. oxytetracycline		
	2. tetracycline		
	3. chlortetracycline		
	4. doxycycline		

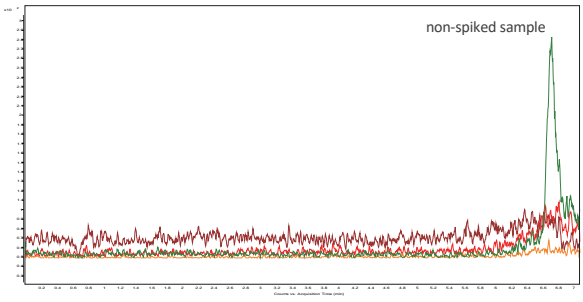
Compound	Recovery(%) 0.4 mg/Kg
oxytetracycline	95%
tetracycline	88%
chlortetracycline	99%
doxycycline	91%

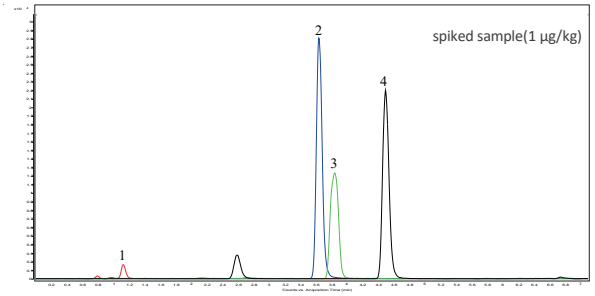
β-receptor agonist residue determination in pork

Pork samples were spiked with the salbutamol, clorprenaline, ractompamine, clebuterol. The samples were then treated using SelectCore MCX cartridges (60mg/3mL).

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%

Ordering Information

Package	HLB	MCX	WCX	MAX	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

SelectCore™
SPE

PS-DVB based SPE

SelectCore PS-DVB sorbents are based on cross-linked polystyrene-divinyl benzene copolymer particles. These products exhibit different selectivity, from HLB high binding capacity and wide pH range, allowing for rapid adsorption and separation of hydrophobic substances, such as phenol, surfactants, pyridine bromide, antibiotics, amino acids and peptides, etc.

Specifications

Product	Martrix	Particle size	Main features
SelectCore PSL	PS-DVB	100 µm	Can be used as an alternative to octadecyl-bonded silica for preparation of analytes that weakly adsorb to silica-based reversed phase sorbents. Compatible with sample or eluents at high and low
SelectCore PSS	PS-DVB	40 µm	Narrow particle size distribution and excellent resolution. Can be used as an alternative to octadecyl-bonded silica for preparation of analytes that weakly adsorb to silica-based reversed phase sorbents. Compatible with sample or eluents at high and low
SelectCore PSCX	PS-DVB	40 µm	Narrow particle size distribution and excellent resolution.
SelectCore X3	PS-DVB	42 µm	Narrow styrene divinylbenzene particles with 3% crosslinkage for gel permeation chromatography, ≤2,000 MW limit.

Ordering Information

Package	PSL	PSS
60mg/3mL; 50/pkg	PSL100-030060-1	PSS040-030060-1
150mg/6mL; 30/pkg	PSL100-060150-1	PSS040-060150-1
200mg/6mL; 30/pkg	PSL100-060200-1	PSS040-060200-1
500mg/6mL; 30/pkg	PSL100-060500-1	PSS040-060500-1

Silica based SPE

Compared with low-purity irregular silica, SelectCore silica based SPE cartridges utilize high-purity spherical silica particles as the matrix, and exhibit reproducible recoveries for quick and effective extraction, isolation and concentration of pharmaceuticals from biological fluids and other aqueous sample matrices.

Specifications

Product	Particle size	Main Features
SelectCore Silica	50 µm	Polar sorbent, used primarily to adsorb analytes from non-polar solvents like hydrocarbons, chloro- or fluoro-subsitituted hydrocarbons or less polar esters and ethers; elution with more polar solvents like polar esters, ethers, alcohols, acetonitrile or water; the binding mechanism can be hydrogen bonding or dipole-dipole interaction.
SelectCore C18	50 µm	Silica based bonded phase, used to adsorb analytes of even weak hydrophobicity from aqueous solutions; typical applications include drugs and their metabolites in serum, plasma or urine, desalting of peptides, trace organics in environmental water samples, organic acids in beverages.
SelectCore NH_2	50 µm	Silica based bonded phase with weakly basic surface; can be used as a polar sorbent, like silica, with different selectivity for acidic/basic analytes or as weak anion exchanger in aqueous medium below pH 8; applications include phenols and phenolic pigments, petroleum fractionation, saccharides, drugs and drug metabolites.
SelectCore PSA	50 µm	Silica based phase with ethylenediamine-N-propyl that contains both primary and secondary amines; A weak anion exchanger with a pKa of 10.1 and 10.9; Similar to aminopropyl SPE phases (NH_2) in terms of selectivity, but has a much higher capacity due to presence of secondary amine; Strong affinity and high capacity for removing fatty acids, organic acids, and some polar pigments and sugars when conducting multi-residue pesticide analysis in foods.

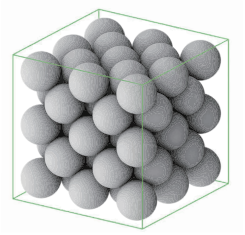
Ordering Information

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

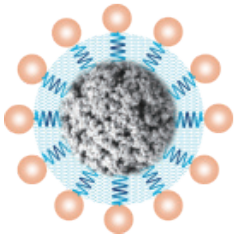
Affinity SPE

To improve purification efficiency of monoclonal antibodies and proteins, NanoChrom SelectCore Affinity SPE products are based on rigid, mono-sized polymethacrylate matrices with proprietary surface hydrophilization, resulting in minimal non-specific binding and high mechanical strength for fast flow operation. Its optimal surface bonding and leading genetic-engineered ligand provide excellent protein binding and good recovery.

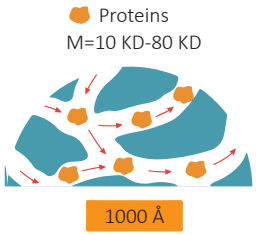
Main Features



Monodispersed particles
High column efficiency
Stable flow rate
Good consistency



Excellent surface chemistry
Low non-specific adsorption
High recovery

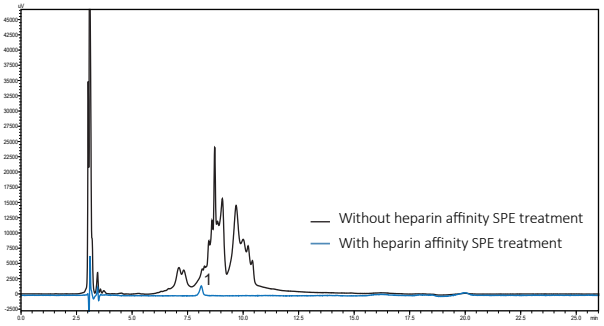


Large pore size
High mass transfer

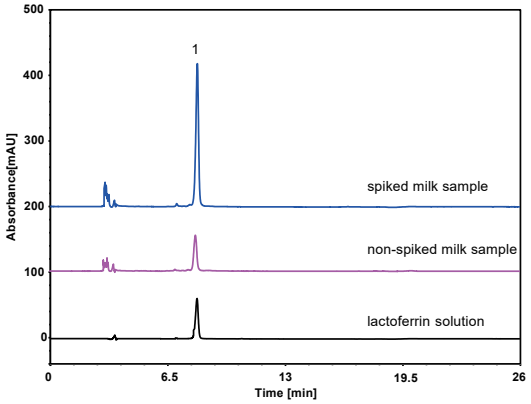
Applications

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 give desired result.



Conditioning	01	Condition the cartridge with 5 mL 0.2 M phosphate buffer (pH8.0) for activation.
Sample loading	02	Load the sample onto the cartridge (discard the effluent).
Washing	03	Wash the cartridge with 10 mL 0.2 M phosphate buffer, pH8.0 (discard the effluent).
Elution	04	Elute the cartridge with 2.5 mL 0.2 M phosphate buffer with 1 M NaCl (pH8.0)solution and collect the eluate.
Analysis	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 ° C		
Injection:	20 μL		
Detection:	UV 280 nm		
Peaks:	1. Lactoferrin		

Spiked added	Recovery
10 mg/100 g	94.30%
50 mg/100 g	95.61%

Ordering Information

Package	Heparin	Protein A	Protein G
1mL; 20/pkg	HEP065-030001-1	PTA050-030001-1	PTG065-030001-1M

SelectCore™ QuEChERS Salts

SelectCore QuEChERS extractions prevent exothermic reaction, prevent degradation of sample and ensure maximum recoveries.

AOAC 2007: 6 g $MgSO_4$, 1.5 g NaOAc → Relatively strong acetate buffering conditions (pH 4.8)

EN 15662: 4 g $MgSO_4$, 1 g NaCl, 1 g TSCD, 0.5 g DHS → Weaker citrate buffering conditions (pH 5-5.5)

QuEChERS Salts

Clean-up Tubes

SelectCore™

QuEChERS

SelectCore™ QuEChERS Clean-up Tube

SelectCore QuEChERS clean-up tube contains the PSA/C18/GCB sorbent blend, which retain present potential interferences and not the analytes of interest.

- $MgSO_4$ for removal of remaining water
- PSA for removal of sugars and fatty acids, organic acids, lipids and polar pigments
- C18 for removal of long carbon chain and fatty compounds, sterols and other nonpolar interferences
- GCB for removal of pigments, polyphenols, and other polar compounds

Matrices	Product description	Part No.
General fruits and vegetables: Removes polar organic acids and sugars	SelectCore QuEChERS salt 4g $MgSO_4$, 1g NaCl, 1g TSCD, 0.5g DHS; 50/pkg	QS-001
	SelectCore QuEChERS ceramic homogenizer	Q-50CH
	SelectCore QuEChERS clean-up tube 2mL, 150mg $MgSO_4$, 25mg PSA; 100/pkg	Q-02P02
	SelectCore QuEChERS clean-up tube 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 salt 4g $MgSO_4$, 1g NaCl, 1g TSCD, 0.5g DHS; 50/pkg	QS-001
	SelectCore QuEChERS ceramic homogenizer	Q-50CH
	SelectCore QuEChERS clean-up tube 2mL, 150mg $MgSO_4$, 25mg PSA, 2.5 mg GCB; 100/pkg	Q-02PG01
	SelectCore QuEChERS clean-up tube 15mL, 885mg $MgSO_4$, 150mg PSA, 15mg GCB; 50/pkg	Q-15PG01
	SelectCore QuEChERS clean-up tube 15mL, 855 mg $MgSO_4$, 150mg PSA, 45mg GCB; 50/pkg	Q-15PG02
	SelectCore QuEChERS clean-up tube 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 salt 6g $MgSO_4$, 1.5g NaOAc; 50/pkg	QS-002
	SelectCore QuEChERS ceramic homogenizer	Q-50CH
	SelectCore QuEChERS clean-up tube 2mL, 150mg $MgSO_4$, 50mg PSA, 50mg C18; 100/pkg	Q-02PC02
	SelectCore QuEChERS clean-up tube 15mL, 1200mg $MgSO_4$, 400mg PSA, 400mg C18; 50/pkg	Q-15PC01
Tea: Removes polyphenols, caffeine and high levels of chlorophyll	SelectCore QuEChERS salt 6g $MgSO_4$, 1.5g NaOAc; 50/pkg	QS-002
	SelectCore QuEChERS ceramic homogenizer	Q-50CH
	SelectCore QuEChERS clean-up tube 2mL, 150mg $MgSO_4$, 50mg PSA, 50mg C18, 25 mg GCB; 100/pkg	Q-02PCG03
	SelectCore QuEChERS clean-up tube 15mL, 1200mg $MgSO_4$, 400mg PSA, 400mg C18, 200mg GCB; 50/pkg	Q-15PCG02
Animal Origin Food: Removes matrix interferences such as lipids and proteins	SelectCore QuEChERS salts, Vet Drugs Residue; 50/pkg	QS-004
	SelectCore QuEChERS clean-up tube 2ml, Vet Drugs Residue 01; 100/pkg	Q-02VR01
	SelectCore QuEChERS clean-up tube 15ml, Vet Drugs Residue 01; 50/pkg	Q-15VR01

NanoChrom

GC Columns

NanoChrom™ BP GC Columns

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NANOCHROM

NanoChrom Technologies (Suzhou) Co., Ltd

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 Column is designed for achieving the lowest possible detection limits for analyzing light gases, solvents, environmental, forensic, and food applications.

Main Features

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

NanoChrom™ BP
GC Columns

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 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

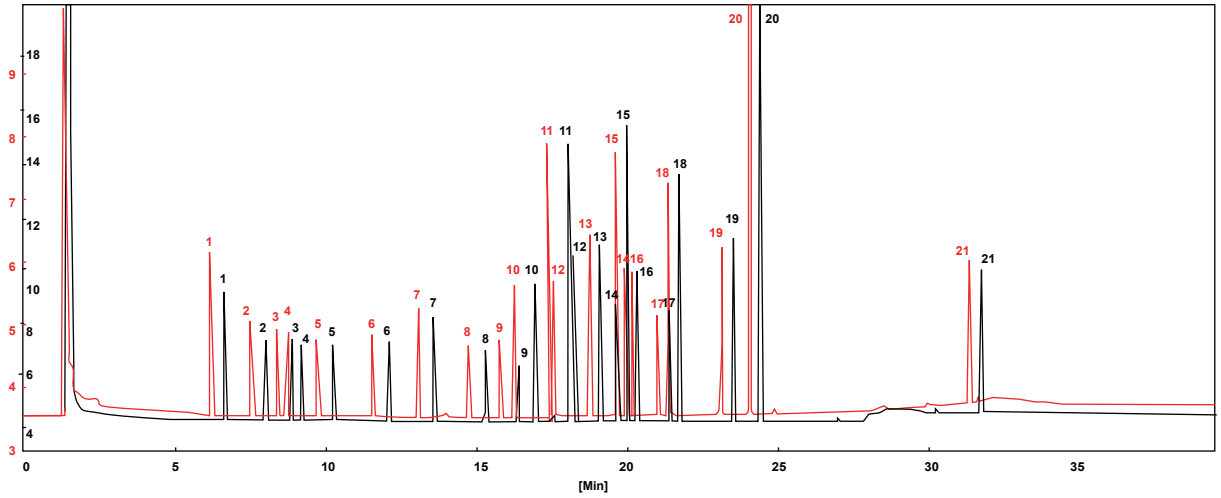
ASTM Designation	Testing Method	Method Title	Recommended NanoChrom GC Columns	P/N
D3447	GC	Standard test method for the purity of halogentated organic solvents	NanoChrom BP-624, 30mx0.53mmx3.0μm	G6253-3030
D3534	GC	Standard test method for the analysis of PCB's in water	NanoChrom BP-1MS, 30mx0.32mmx1.0μm	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	The activated 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 sam-pling	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 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 waxe	NanoChrom BP-5, 15mx0.25mmx0.25µm	G0525-1502
D5475	GC with a nitro-gen 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 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 PCB's 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

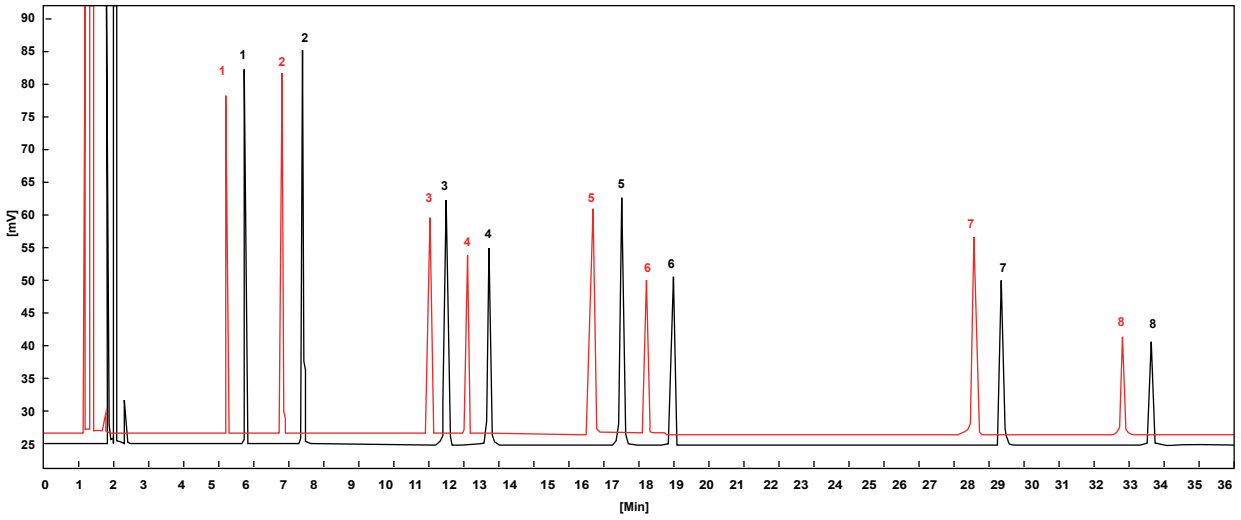
Pesticides, 21 (BP-5MS)



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)

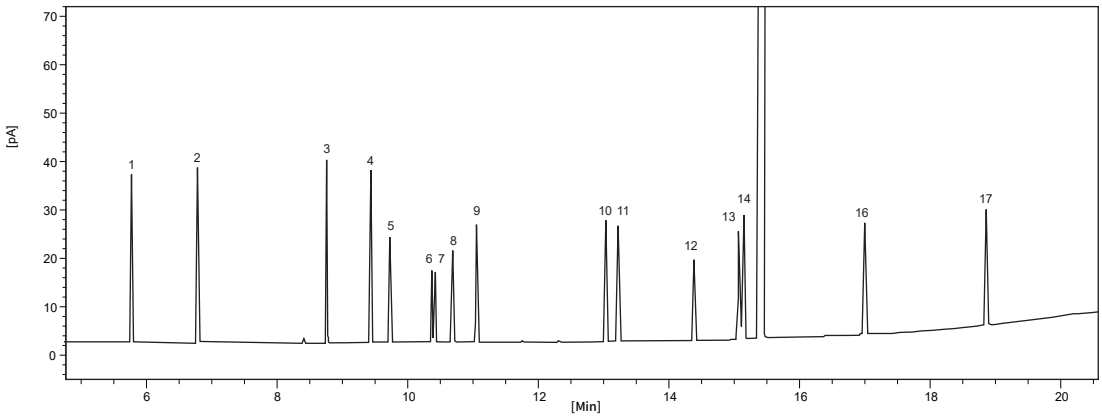
Standard test sample (BP-INOWAX)



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)

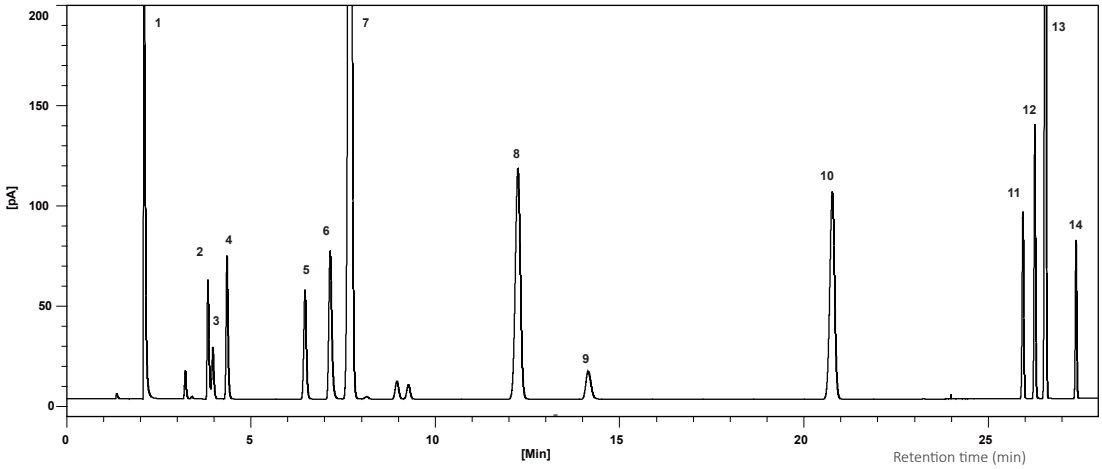


Retention time(min)

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)

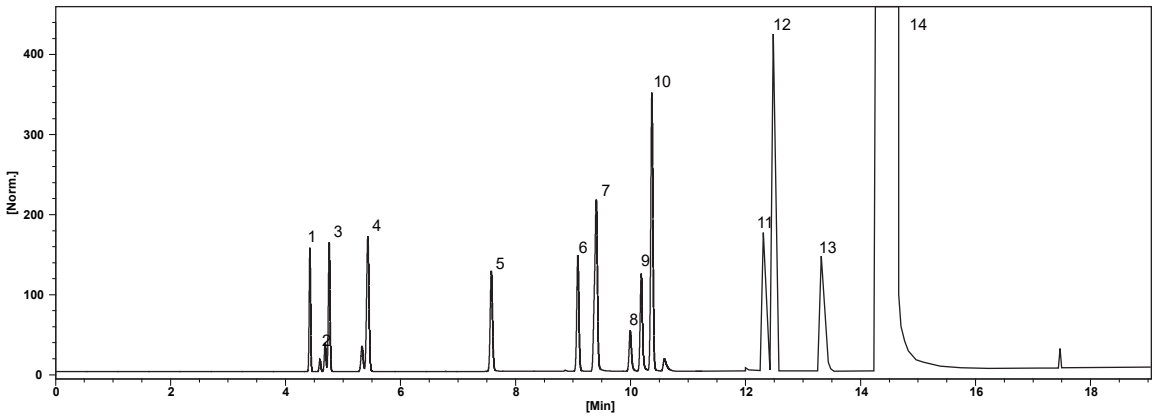


Retention time (min)

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)

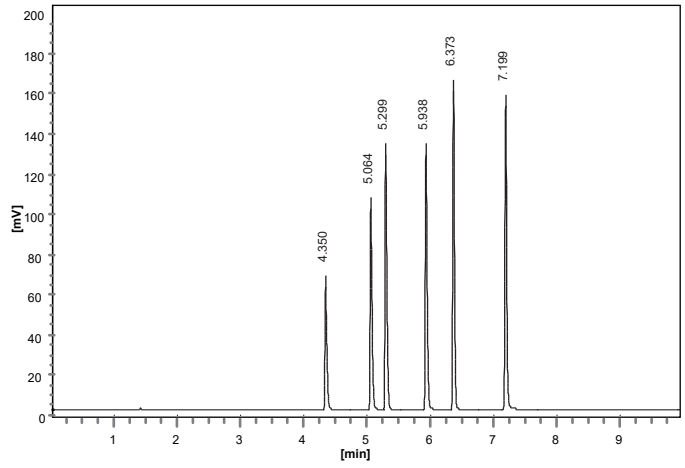


Column:	NanoChrom BP-FFAP
Dimension:	60mx0.32mmx0.50µm
Carrier:	Hydrogen, 1.3 mL/min (Constant Flow)
Inlet:	Split, 240 °C, Split flow 50 mL/min
Oven:	45 °C (hold 5 min) to 120 °C (hold 1 min) at 5 °C/min
Inject Volume:	0.1 µL
Detector:	FID 260 °C

Peaks:

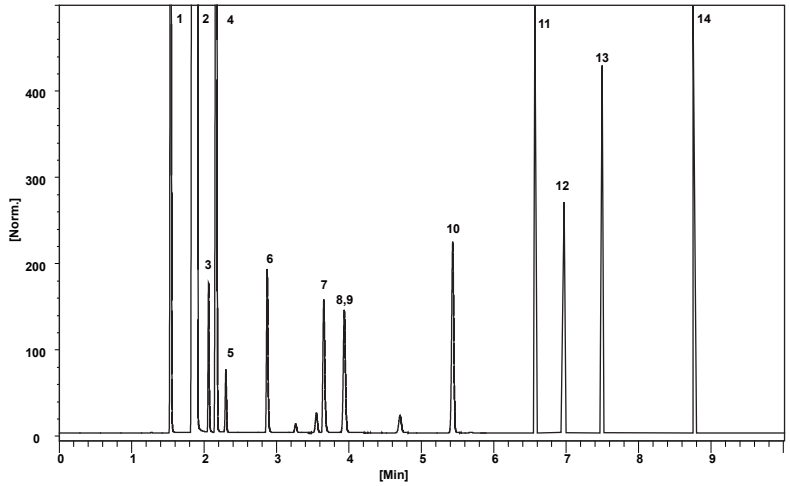
1.	Pentane	4.420
2.	Hexane	4.685
3.	Tert-butyl methyl ether (MTBE)	4.755
4.	Acetone	5.427
5.	Ethyl acetate	7.575
6.	2-Butanone	9.079
7.	Methanol	9.400
8.	Isopropanol	9.991
9.	Ethanol	10.183
10.	Benzene	10.367
11.	1-propanol	12.334
12.	Toluene	12.494
13.	Iso-butanol	13.321
14.	1-Butanol	14.595

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

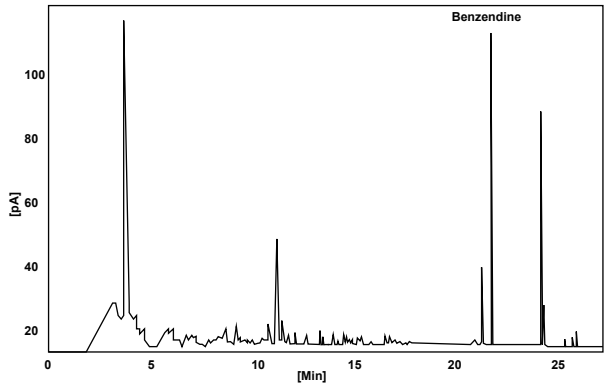
Fusel alcohol products (NanoChrom BP-BioEtOH)

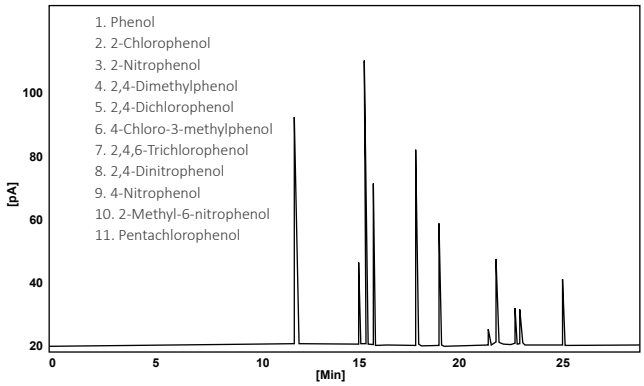


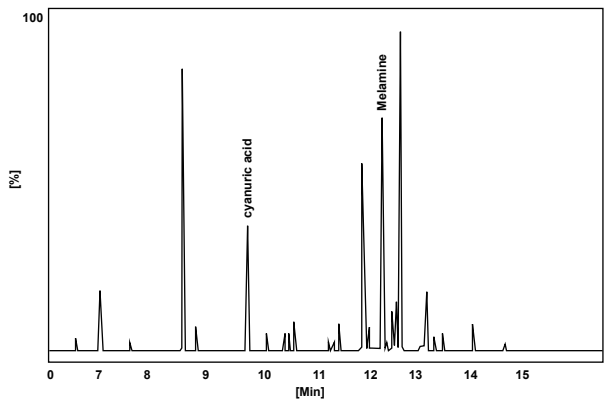
Column:	NanoChrom BP-BioEtOH
Dimension:	30mx0.25mmx1.00μm
Carrier:	Hydrogen, flow 1.5 mL/min
Inlet:	Split, 275 °C, split ratio 30:1
Oven:	40 °C (hold 5 min) to 300 °C (hold 1 min) at 25 °C/min
Inject volume:	0.1 μL
Detector:	FID 325 °C
Peaks:	1. Methanol
	2. Ethanol
	3. Acetone
	4. Isopropyl alcohol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

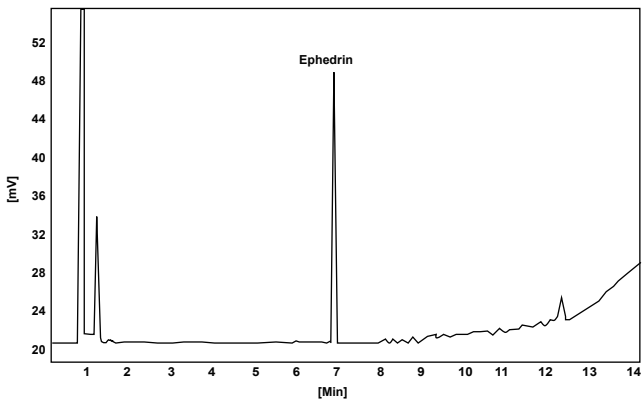
Separation of complex samples (BP-5MS)

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.





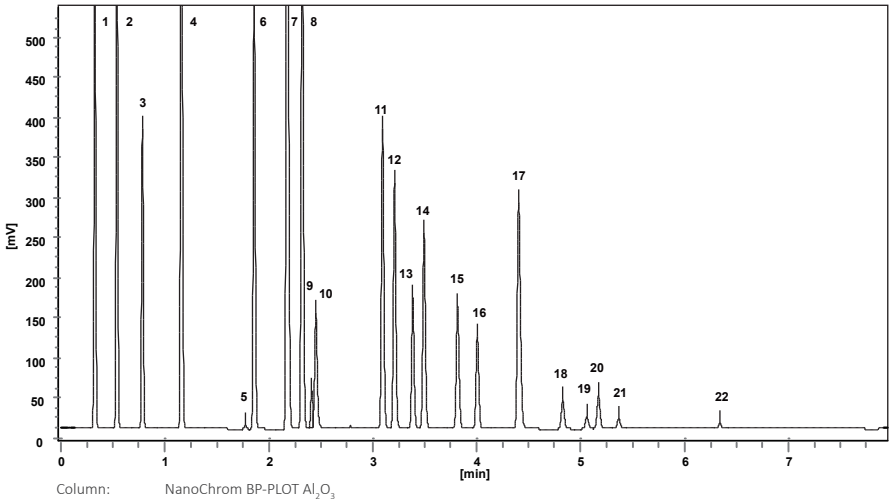




Analysis of a baby formula spiked with 10 ppm Melamine on NanoChrom BP-5MS column by GC/MS.
Column: NanoChrom BP-5MS, 30mx0.25mmx0.25μm (P/N G1525-3002)
Oven:75 °C (hold 1min), 5 °C/min to 300 °C (hold 5 min).
Sample: 10 ppm spiking melamine in baby formula, TMS derivative

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

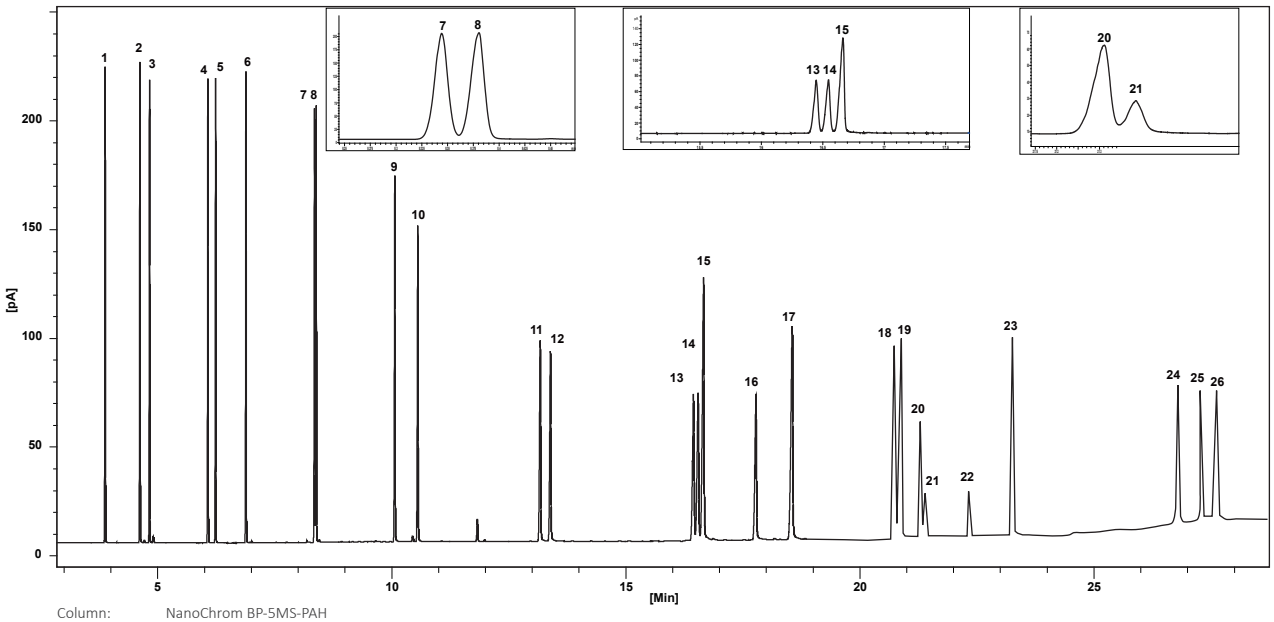
Refined gas (NanoChrom BP-PLOT Al_2O_3)



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)

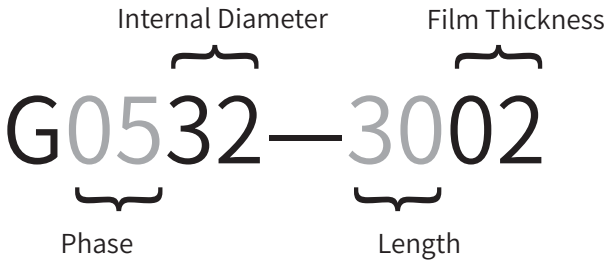


Column: NanoChrom BP-5MS-PAH
Dimension: 30mx0.25mmx0.25µm
Carrier: Hydrogen, column flow 1.2 mL/min
Inlet: Split, 275 °C, Split flow 50 mL/min
Oven: 100 °C (hold 1 min) to 280 °C at 15 °C/min to 340 °C (hold 10 min) at 5 °C/min
Inject Volume: 1 µL
Detector: FID 350 °C

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	

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

HPLC Columns

Bio-Separation Columns

Chiral Columns

Preparative Columns

Guard Columns

Ghost-Remover Column

SPE

QuEChERS

GC Column

NanoChrom Technologies (Suzhou) Co., Ltd

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