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Chromatography Consumables Product Catalog



<http://www.nanochrom.com>

NANOCHROM



WeChat Official Account



NanoChrom Technologies (Suzhou) Co., Ltd



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CONTENT

	About Company	03
	USP Listing	07
	Selection Guide	08
1	Bio-Separation Columns	09
1.1	BioCore™ SEC	11
1.2	BioCore™ WCX	19
1.3	BioCore™ SCX	22
1.4	BioCore™ SAX	24
1.5	BioCore™ HIC	26
1.6	BioCore™ RP	28
1.7	BioCore™ Glycan	30
1.8	BioCore™ Protein A	31
2	HPLC Columns	33
2.1	ChromCore™ Reversed-Phase LC Columns	35
2.1.1	ChromCore™ 120 C18	37
2.1.2	ChromCore™ AQ C18	41
2.1.3	ChromCore™ AR C18	44
2.1.4	ChromCore™ BR C18	47
2.1.5	ChromCore™ 120 C18-T	49
2.1.6	ChromCore™ Polar C18	51
2.1.7	ChromCore™ 120 C8	53
2.1.8	ChromCore™ AQ C8	56
2.1.9	ChromCore™ C30	58
2.1.10	ChromCore™ Phenyl	60
2.1.11	ChromCore™ Phenyl-Hexyl	62
2.1.12	ChromCore™ Phenyl-Ether	64
2.1.13	ChromCore™ PFP	66
2.1.14	ChromCore™ Biphenyl	68

2.2	ChromCore™ 300 Å Reversed-Phase Columns	70
2.3	ChromCore™ Normal Phase/HILIC LC Columns	73
2.3.1	ChromCore™ Silica	74
2.3.2	ChromCore™ NH ₂	75
2.3.3	ChromCore™ CN	77
2.3.4	ChromCore™ HILIC-Diol	79
2.3.5	ChromCore™ HILIC-Amide	81
2.3.6	ChromCore™ HILIC-Imidazole	83
2.4	ChromCore™ Ion Exchange LC Columns	85
2.5	ChromCore™ Application-Specific Columns	89
2.6	ChromCore™ Sugar Columns	91
2.7	ChromCore™ UHPLC Columns	93
2.8	NanoChrom™ Ghost-Remover Columns	99
3	Guard Columns	100
4	Preparative LC Columns	102
5	Chiral Columns	104
6	Sample Preparation Products	110
6.1	Solid Phase Extraction	112
6.1.1	PVP-DVB Based SPE	114
6.1.2	PS-DVB Based SPE	119
6.1.3	Silica Based SPE	120
6.1.4	Affinity SPE	121
6.2	QuEChERS	123
7	GC Columns	125
7.1	NanoChrom™ BP GC Columns	126
7.2	USP GC Phases	127
7.3	ASTM Methods	128
7.4	Applications	132
7.5	Ordering Information	137

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
Application-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, NH₂
Affinity: Heparin, Protein A, Protein G

SelectCore™ QuEChERS

Technology

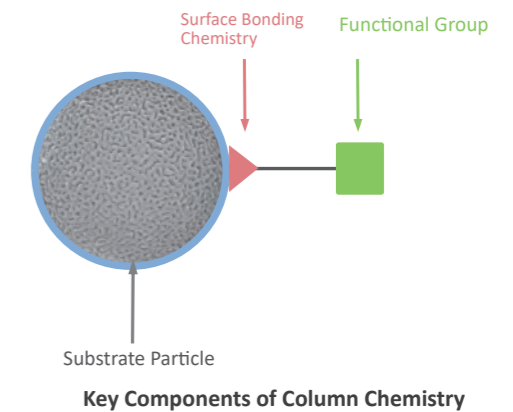
HPLC column technology involves three fundamental aspects: substrate particle, surface bonding chemistry and functional group. NanoChrom's technological advantages are reflected in each of these aspects.

01 Substrate Particle

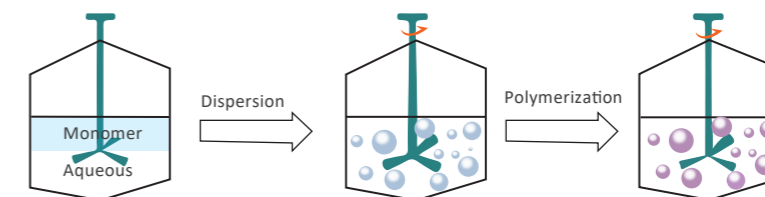
Substrate particles build the foundation of the mechanical and chemical stability in LC columns. The substrate particles used in NanoChrom's LC columns are based on the latest innovation on particle technology:

>> UniPS™ Polymer Particle

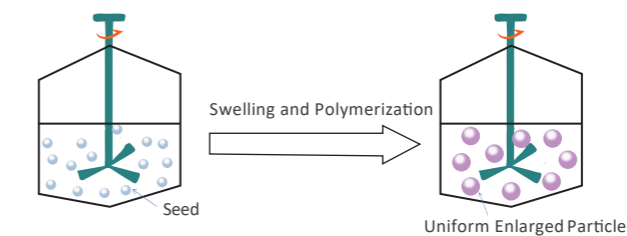
UniPS™ represents a family of monodispersed, spherical, highly crosslinked divinylbenzene (DVB) particles with precisely controlled particle size, pore structure, and surface area. These particles are manufactured with innovative industrial-scale processes (See Figures below). Compared to their poly-dispersed 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

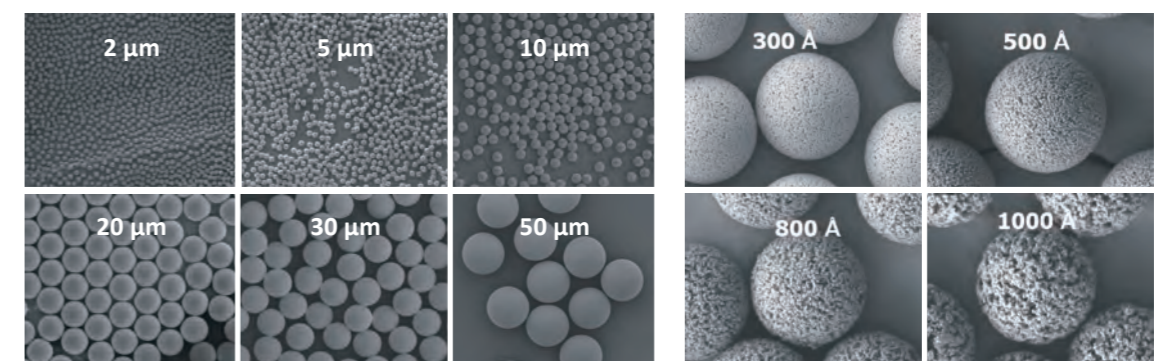


Traditional technology for producing polymer particles with a broad particle size distribution



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

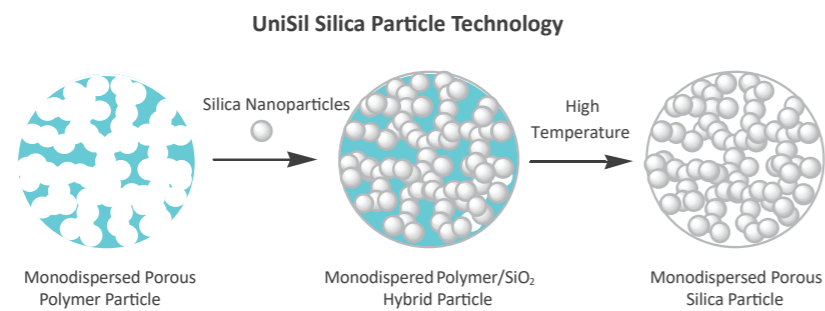
UniSil™ features a family of monodispersed, spherical, silica particles with tightly controlled particle size, pore structure and surface area, manufactured by innovative processes (illustration of the “template” process) at industrial scales. This technology involves three steps:

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

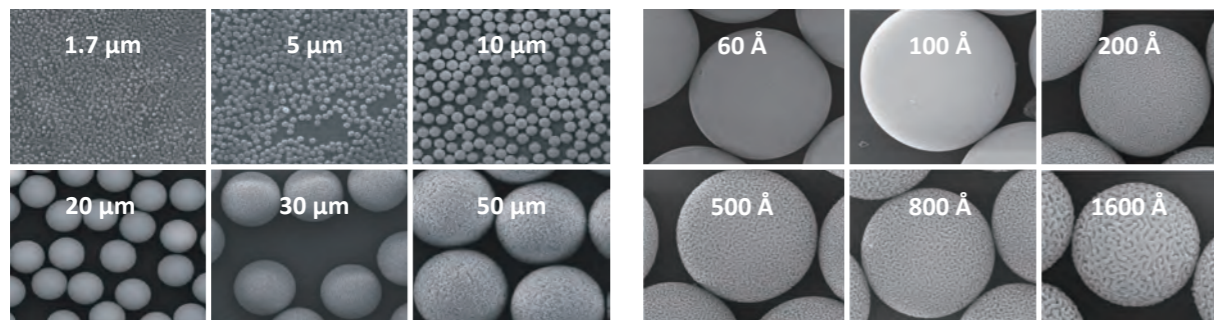
Step 2: using as-made polymer particles as the template, fill the pores with silica nanoparticles to form monodispersed silica/polymer hybrid particles;

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.

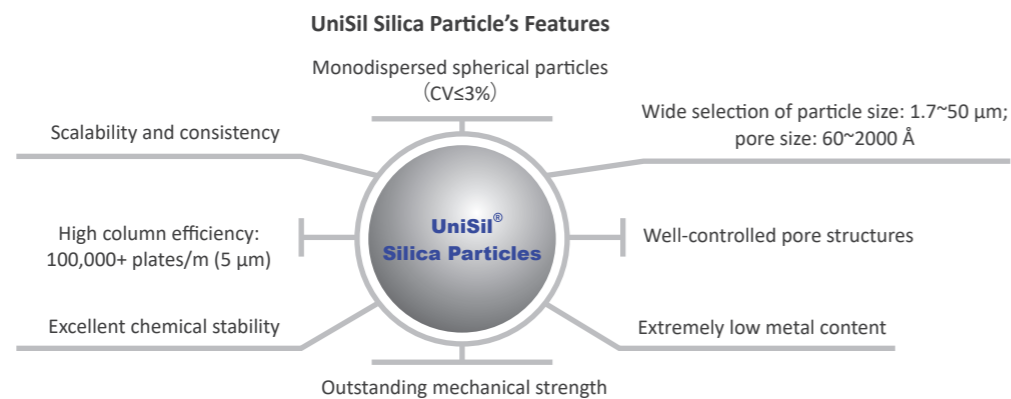


SEM Images of UniSil Silica Particles



UniSil particles with different particle sizes

UniSil particles with different pore sizes



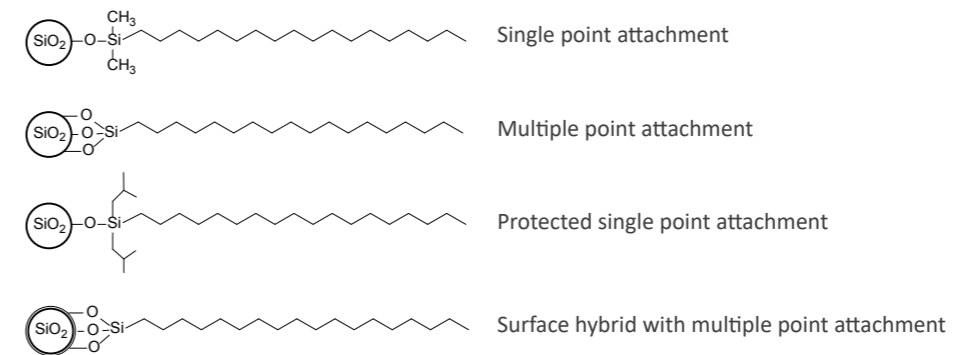
02 Surface Bonding Chemistry

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

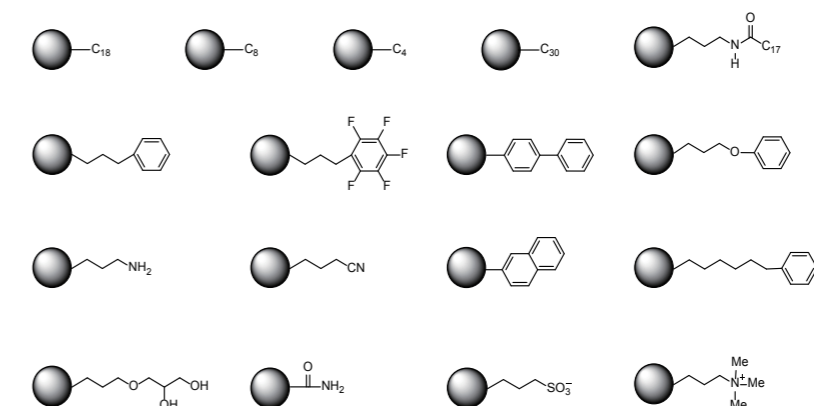


03 Column Functionality

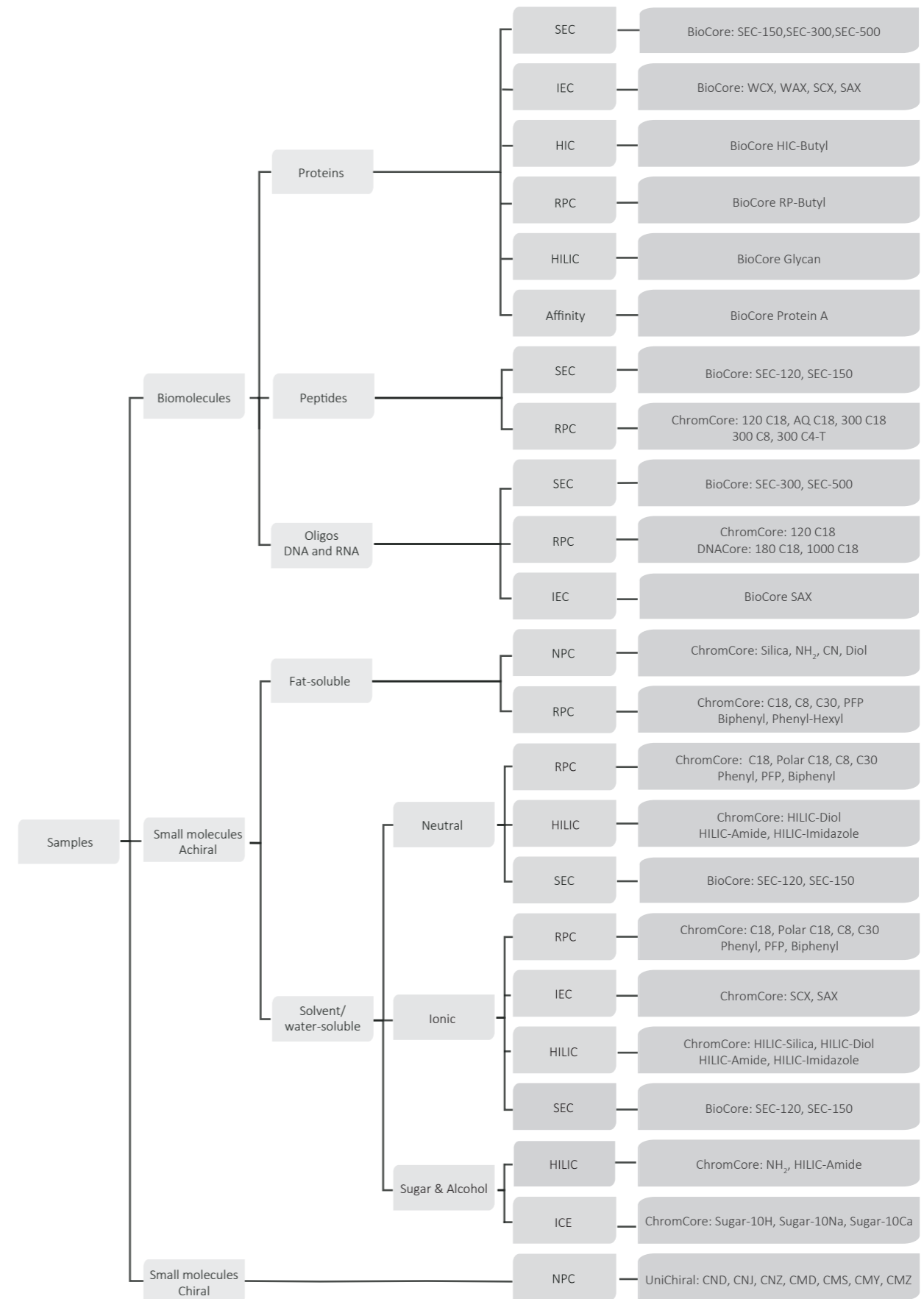
The functional group determines column selectivity. Common functional group classifications include reversed phase (RP), normal phase (NP), hydrophilic interaction chromatography (HILIC), ion-exchange (IEX), size exclusion chromatography (SEC), ion exclusion chromatography (ICE) and affinity chromatography (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

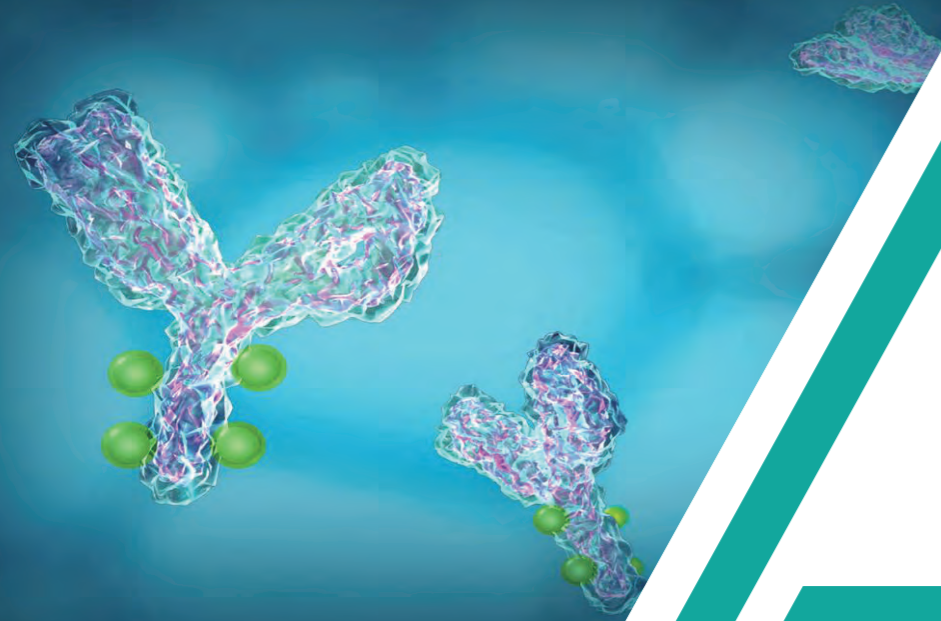


USP Listing	Packing	Brand Name
L1	Octadecyl silane chemically bonded to porous or non-porous silica or ceramic microparticles, 1.5 to 10 µm in diameter, or a monolithic rod	ChromCore 120 C18 ChromCore AQ C18 ChromCore AR C18 ChromCore BR C18 ChromCore 120 C18-T ChromCore 300 C18
L3	Porous silica particles, 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 quaternary 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 µm 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



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

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.

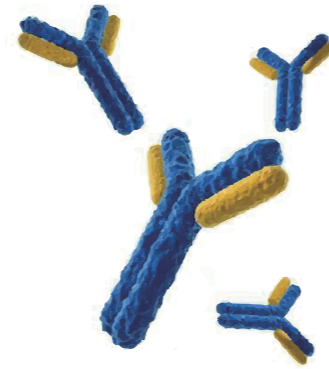


Product Portfolio

	SEC	IEC	HIC
Product	<p>BioCore SEC-120 BioCore SEC-150 BioCore SEC-300 BioCore SEC-500</p>	<p>BioCore WCX BioCore SCX BioCore SAX</p>	<p>BioCore HIC</p>
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	<p>BioCore RP</p>	<p>BioCore Glycan</p>	<p>BioCore Protein A</p>
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, in combination with well-established column packing processes. BioCore SEC columns are suited for separating peptides, oligonucleotides, monoclonal antibodies, and related aggregates and fragments, thus having a broad application range in pharmaceutical, biopharmaceutical and academia research.



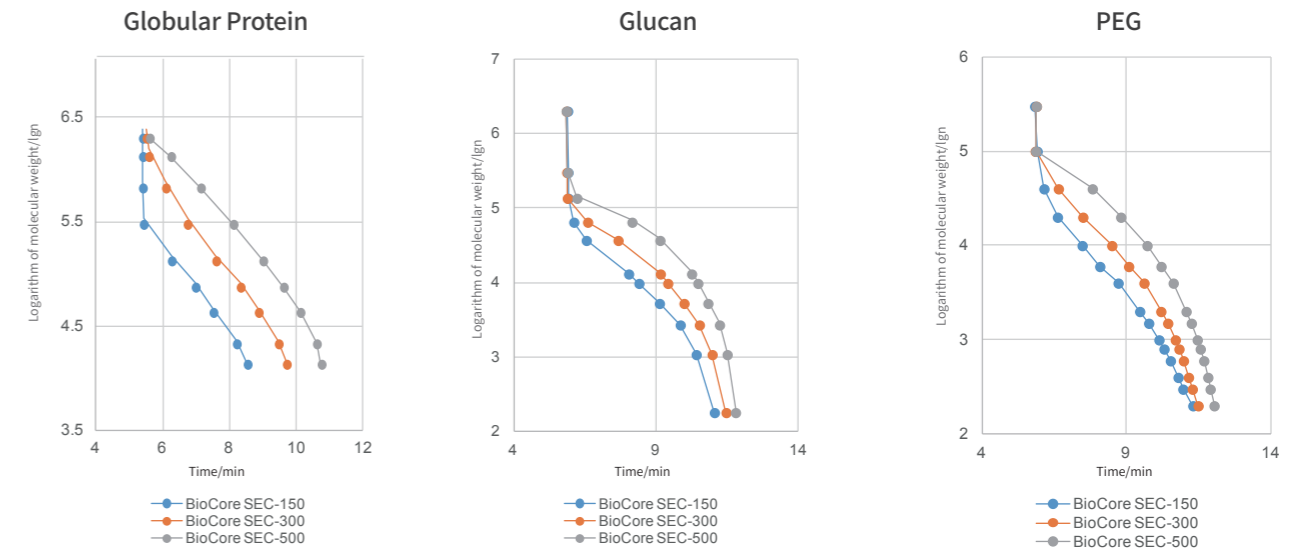
Main Features

- 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

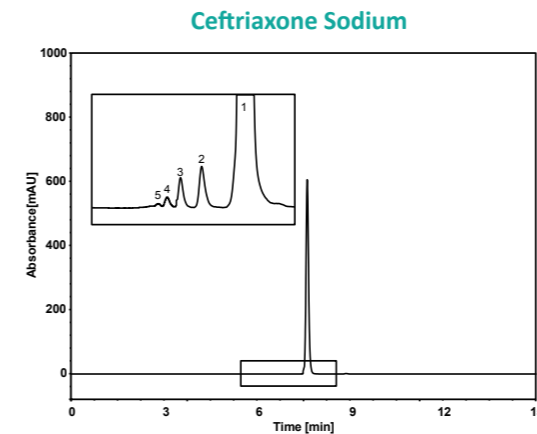
Product Name	SEC-120	SEC-150	SEC-300	SEC-500
Functional Group	Diol			
Substrate	Monodispersed, high pore volume, porous silica particles			
Particle Size	3 & 5 μm			
Pore Size	120 Å	150 Å	300 Å	500 Å
Pressure Limit	>1500 psi for 5 μm, >2500 psi for 3 μm			
Temperature Limit	40 °C			
pH Range	2-8			
Calibration 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

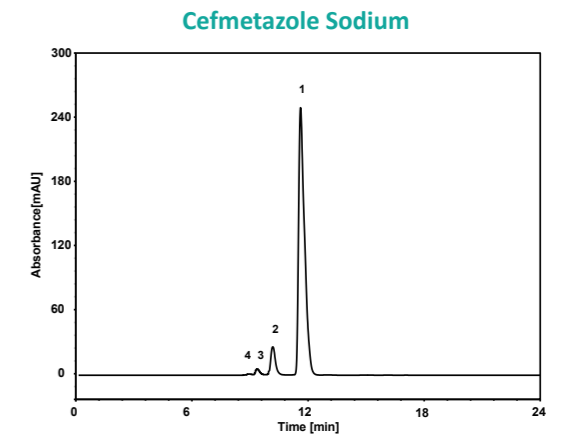
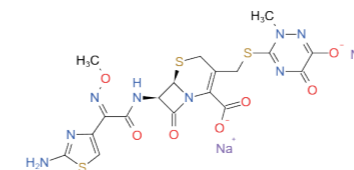


Applications

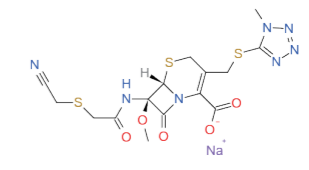
>> BioCore SEC-120



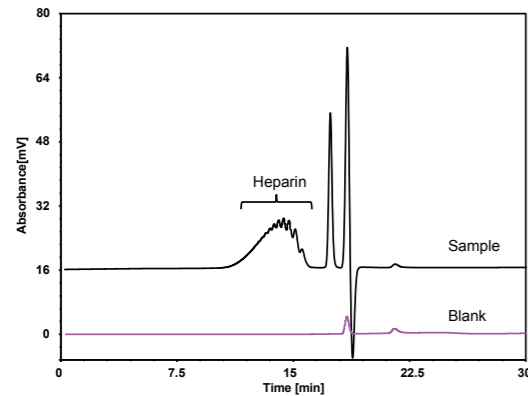
Column: BioCore SEC-120, 5 μm
 Dimension: 7.8 × 300 mm
 Mobile Phase: 5 mM phosphate buffer, pH7.0
 Flow Rate: 1.0 mL/min
 Temperature: 30 °C
 Injection: 2 μL
 Detection: UV 231 nm
 Peaks: 1. Ceftriaxone
 2-5. Polymers of Ceftriaxone



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 °C
 Injection: 10 μL
 Detection: UV 254 nm
 Peaks: 1. Cefmetazole
 2-4. Impurities

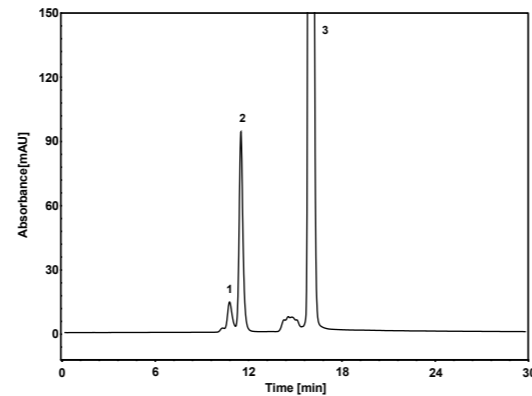


Low Molecular Heparin



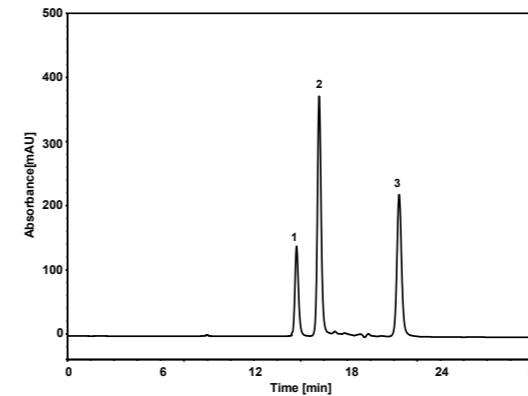
Column: BioCore SEC-120, 5 µm
 Dimension: 7.8 × 300 mm
 Mobile Phase: 100 mM ammonium acetate solution
 Flow Rate: 0.6 mL/min
 Temperature: 35 °C
 Injection: 20 µL
 Detection: RID
 Peaks: Heparin

Peptides



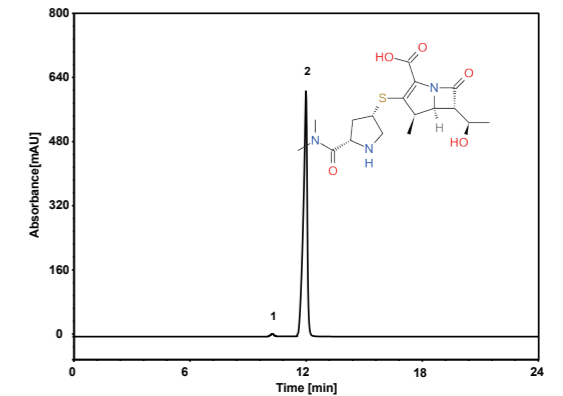
Column: BioCore SEC-120, 5 µm
 Dimension: 7.8 × 300 mm
 Mobile Phase: 40/60 v/v MeCN/0.1% TFA in H₂O
 Flow Rate: 0.7 mL/min
 Temperature: 30 °C
 Injection: 20 µL
 Detection: UV 276 nm
 Peaks: 1. Polymer of peptide
 2. Peptide
 3. M-cresol

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 °C
 Injection: 10 µL
 Detection: UV 215 nm
 Peaks: 1. P-3000
 2. P-2000
 3. P-1000

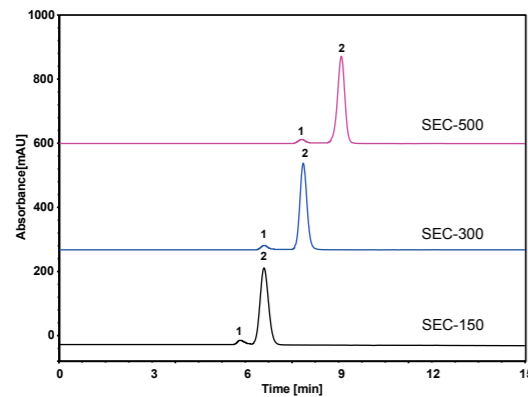
Meropenem



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 °C
 Injection: 20 µL
 Detection: UV 254 nm
 Peaks: 1. Meropenem Aggregate
 2. Meropenem

>> BioCore SEC-150

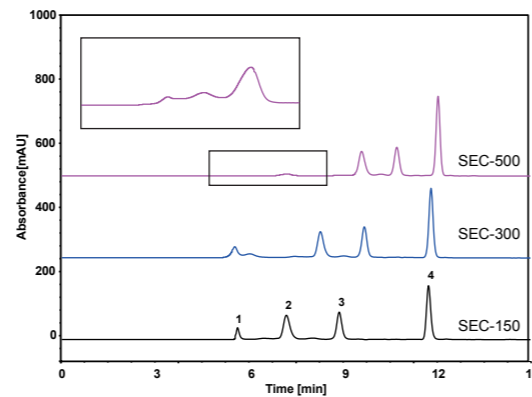
IgG1 and Aggregate



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 °C
 Injection: 5 µL
 Detection: UV 280 nm
 Sample: IgG1 (2.6 mg/mL in H₂O)
 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 %

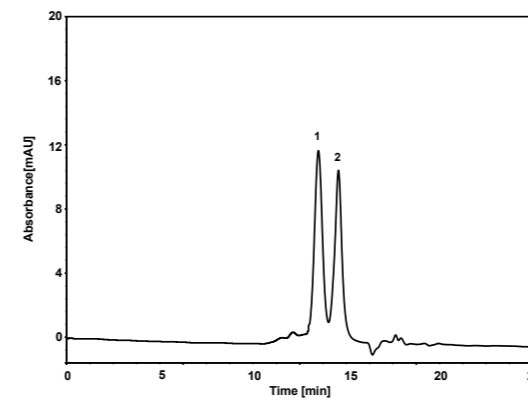
Proteins



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 °C
 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)

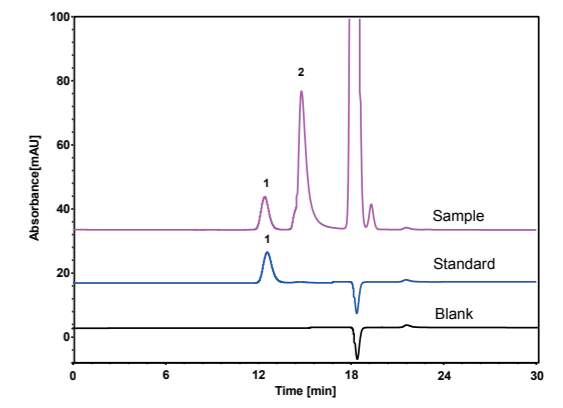
Column	R.T. (1)	R.T. (2)	R.T. (3)	R.T. (4)
SEC-150	5.634	7.192	8.884	11.742
SEC-300	5.547	8.281	9.689	11.822
SEC-500	6.239	9.606	10.739	12.056

ScFv Monomer and Dimer



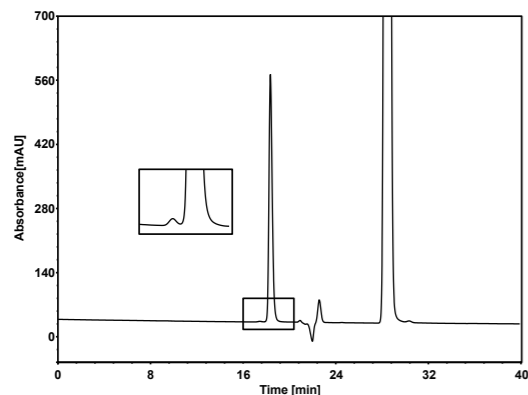
Column: BioCore SEC-150, 5 µm
 Dimension: 7.8 × 300 mm
 Mobile Phase: 90/10 v/v 300 mM NaCl in 50 mM phosphate buffer/MeCN
 Flow Rate: 0.6 mL/min
 Temperature: 30 °C
 Injection: 20 µL
 Detection: UV 280 nm
 Peaks: 1. ScFv Dimer
 2. ScFv Monomer

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 °C
 Injection: 20 µL
 Detection: RID
 Peaks: 1. Poloxamer 188 (P188)
 2. Protein

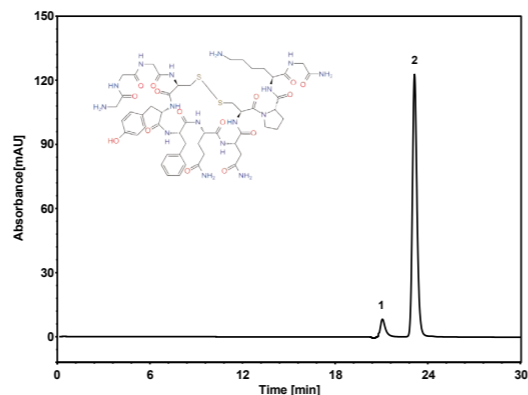
Exenatide Injection



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 Na₂SO₄ in H₂O/TFA
 Flow Rate: 0.5 mL/min
 Temperature: 30 °C
 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

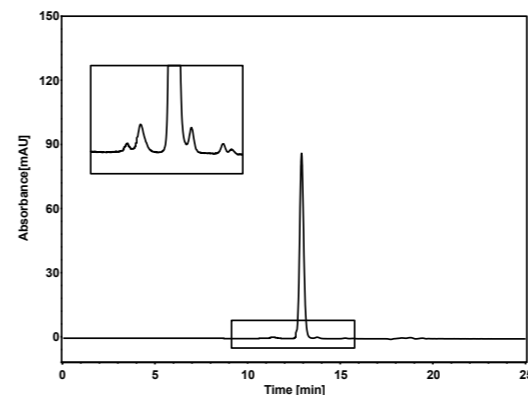
Terlipressin



Column: BioCore SEC-150, 5 µm
 Dimension: 7.8×300 mm
 Mobile Phase: 100 mM Na₂SO₄ in 100 mM phosphate buffer
 Flow Rate: 0.5 mL/min
 Temperature: 30 °C
 Injection: 10 µL
 Detection: UV 274 nm
 Peaks: 1. Impurity U
 2. Terlipressin

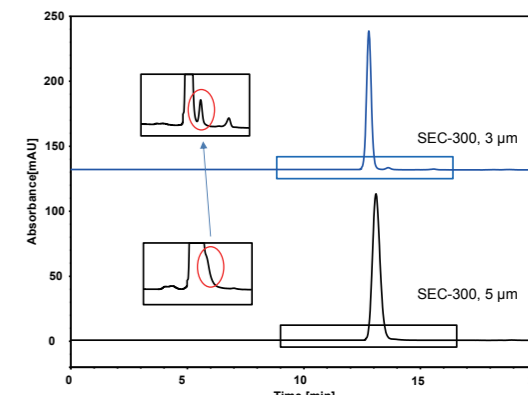
R.T. (min)	Peak Area	Peak Height	Theoretical Plate	Tailing Factor	Resolution
23.080	2593525	126283	29589	1.19	3.63

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 °C
 Injection: 5 µL
 Detection: UV 280 nm
 Sample: NISTmAb (1.0 mg/mL)

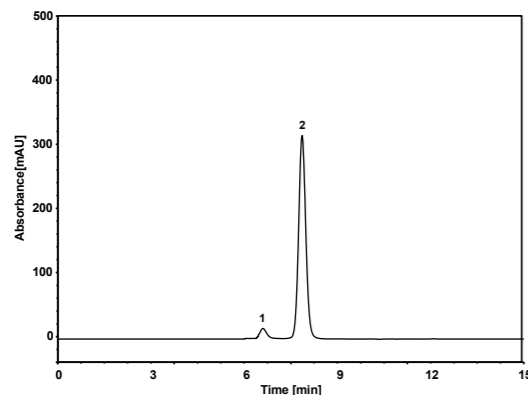
Monoclonal Antibody



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 °C
 Injection: 2 µL
 Detection: UV 280 nm
 Sample: mAb (10.3 mg/mL)

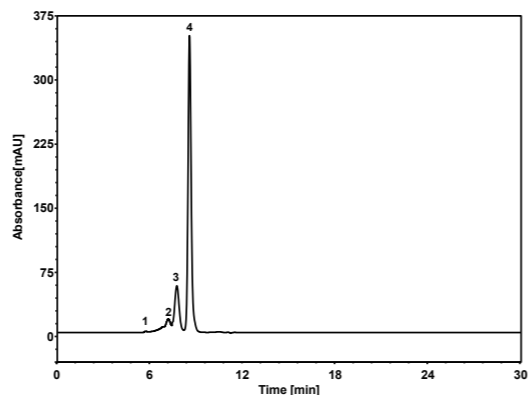
>> BioCore SEC-300

IgG1 and Aggregate



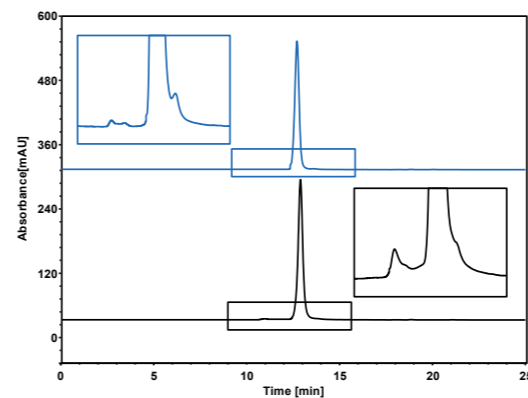
Column: BioCore SEC-300, 5 µm
 Dimension: 4.6×300 mm
 Mobile Phase: 150 mM phosphate buffer, pH6.8
 Flow Rate: 0.35 mL/min
 Temperature: 30 °C
 Injection: 5 µL
 Detection: UV 280 nm
 Sample: IgG1 (2.6 mg/mL in H₂O)
 Peaks: 1. IgG1 Aggregate
 2. IgG1

Human Serum Albumin



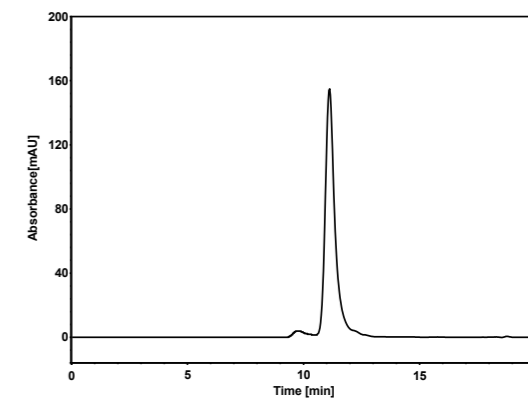
Column: BioCore SEC-300, 5 µm
 Dimension: 7.8×300 mm
 Mobile Phase: 100 mM phosphate buffer, pH7.0
 Flow Rate: 0.7 mL/min
 Temperature: 25 °C
 Injection: 10 µL
 Detection: UV 280 nm
 Peaks: 1-3. Aggregates
 4. Human Serum Albumin

Antibody-Drug Conjugate (ADC)



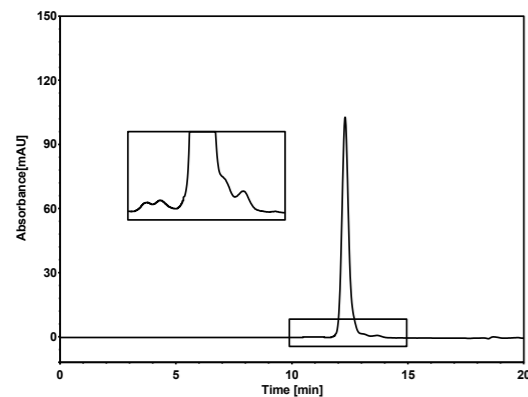
Column: BioCore SEC-300, 3 µm
 Dimension: 4.6×300 mm
 Mobile Phase:
 Blue: 90/10 v/v 300 mM NaCl in 50 mM phosphate buffer, pH6.8/MeCN
 Black: 300 mM NaCl in 50 mM phosphate buffer, pH6.8
 Flow Rate: 0.21 mL/min
 Temperature: 30 °C
 Injection: 2 µL
 Detection: UV 280 nm
 Sample: ADC (10.0 mg/mL)

Recombinant Protein



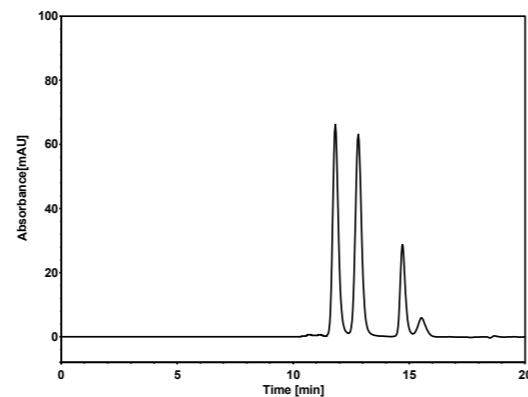
Column: BioCore SEC-300, 3 µm
 Dimension: 4.6×300 mm
 Mobile Phase: 90/10 v/v 300 mM NaCl in 50 mM phosphate buffer, pH6.8/MeCN
 Flow Rate: 0.21 mL/min
 Temperature: 30 °C
 Injection: 2 µL
 Detection: UV 280 nm
 Sample: Recombinant Protein

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

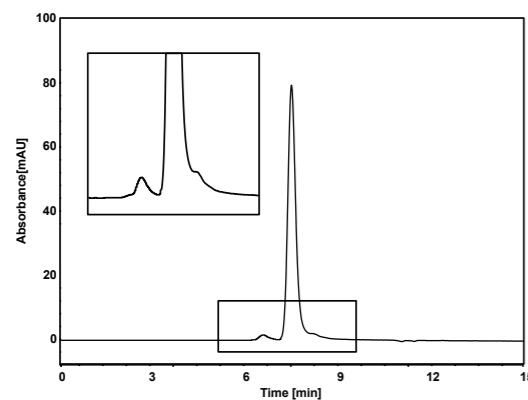
Trispecific Antibody



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

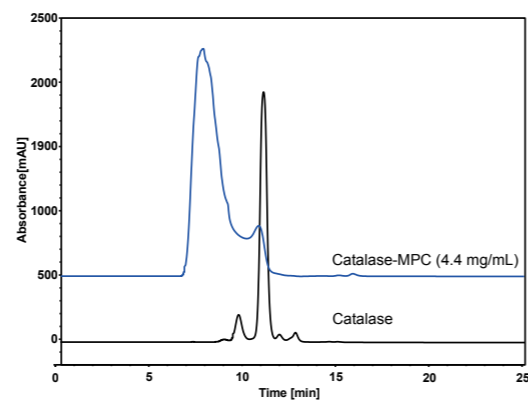
>> BioCore SEC-500

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 °C
 Injection: 5 μL
 Detection: UV 280 nm
 Sample: Fusion Protein (1 mg/mL in H₂O)

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 °C
 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, in combination with a well-established column packing process.

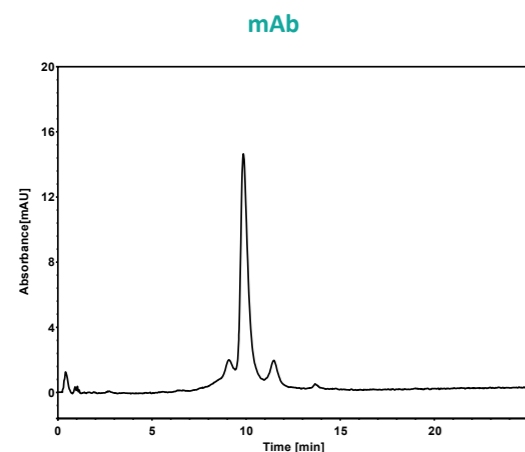
Main Features

- 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

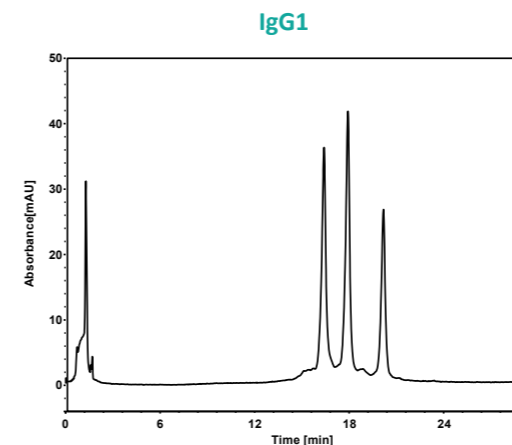
Applications



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
-15	80	20
0	80	20
5	80	20
25	60	40
25.1	0	100
30	0	100

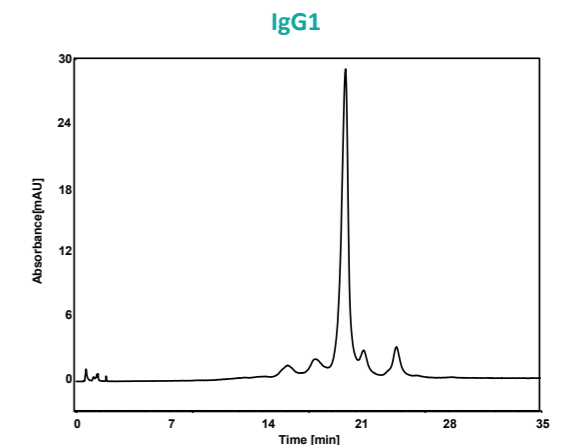
 Flow Rate: 1.0 mL/min
 Temperature: 30 °C
 Injection: 2 μL
 Detection: UV 280 nm
 Sample: mAb (5.0 mg/mL in mobile phase A)



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

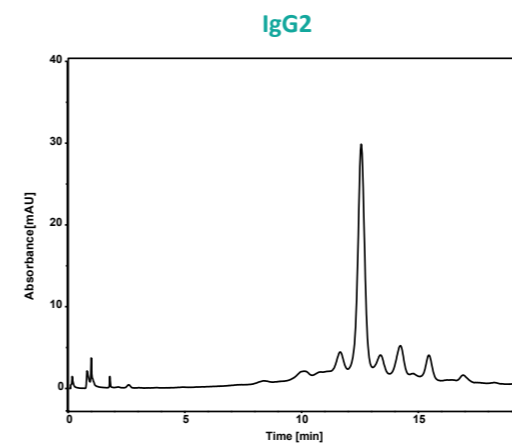
 Flow Rate: 1.0 mL/min
 Temperature: 30 °C
 Injection: 20 μL
 Detection: UV 280 nm
 Sample: IgG1 (~2 mg/mL in H₂O)



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

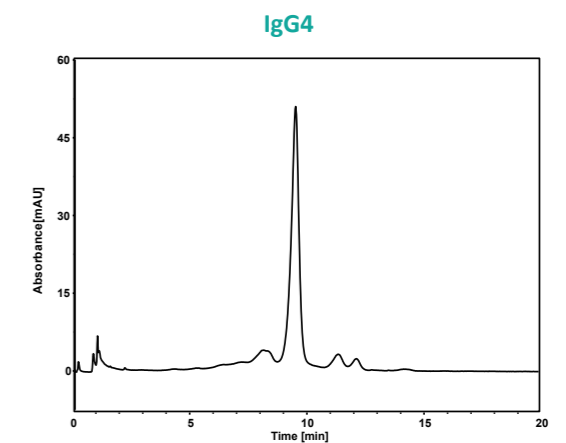
 Flow Rate: 1.0 mL/min
 Temperature: 30 °C
 Injection: 10 μL
 Detection: UV 280 nm
 Sample: IgG1 (~2.5 mg/mL in mobile phase A)



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 °C
 Injection: 25 μL
 Detection: UV 280 nm
 Sample: IgG2 (1 mg/mL in H₂O)

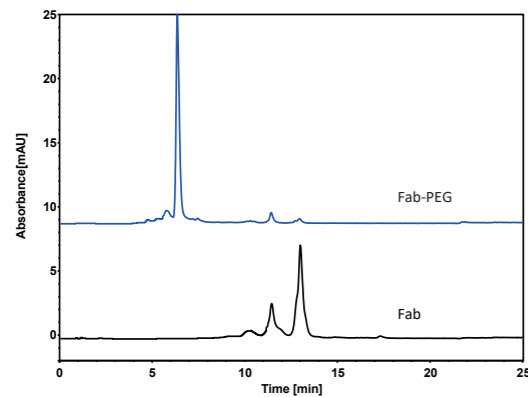


Column: BioCore WCX, 10 μm
 Dimension: 4.6 × 150 mm
 Mobile Phase: A) 20 mM phosphate buffer, pH6.5
 B) 300 mM NaCl in 20 mM phosphate buffer, pH6.5
 Gradient:

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 °C
 Injection: 25 μL
 Detection: UV 280 nm
 Sample: IgG4 (1 mg/mL in H₂O)

Fab and Fab-PEG

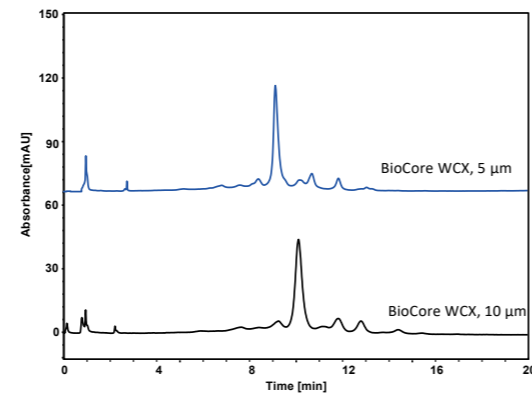


Column: BioCore WCX, 10 μ m
 Dimension: 4.6 \times 150 mm
 Mobile Phase: A) 20 mM MES, pH5.5
 B) 300 mM NaCl in 20 mM MES, pH5.5
 Gradient:

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 $^{\circ}$ C
 Injection: 2 μ L
 Detection: UV 280 nm
 Sample: Fab-PEG (3 mg/mL in 50 mM sodium acetate solution)
 Fab (5 mg/mL in 50 mM phosphate buffer)

IgG2 Charge Variants

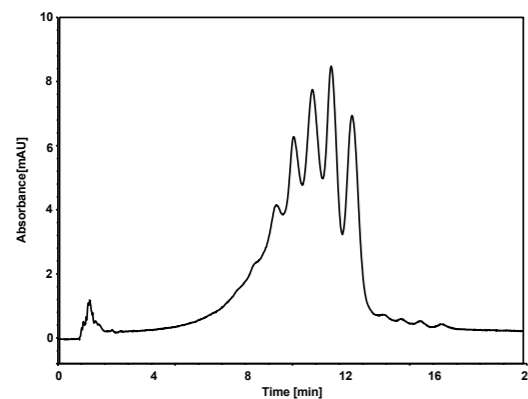


Columns: BioCore WCX, 5 μ m
 BioCore WCX, 10 μ m
 Dimension: 4.6 \times 150 mm
 Mobile Phase: A) 20 mM phosphate buffer, pH6.5
 B) 300 mM NaCl in 20 mM phosphate buffer, pH6.5
 Gradient:

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 $^{\circ}$ C
 Injection: 25 μ L
 Detection: UV 280 nm
 Sample: IgG2 (~1 mg/mL in mobile phase A)

Bispecific Antibody



Column: BioCore WCX, 5 μ m
 Dimension: 4.6 \times 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 $^{\circ}$ C
 Injection: 5 μ L
 Detection: UV 280 nm
 Sample: Bispecific Antibody (~5 mg/mL in mobile phase A)

Ordering Information

Product Name	Particle Size (μ m)	Length (mm)	ID (mm)
			4.6
BioCore WCX	10	250	B311-100000-04625P
		150	B311-100000-04615P
		100	B311-100000-04610P
	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, in combination with a well-established column packing process.

Main Features

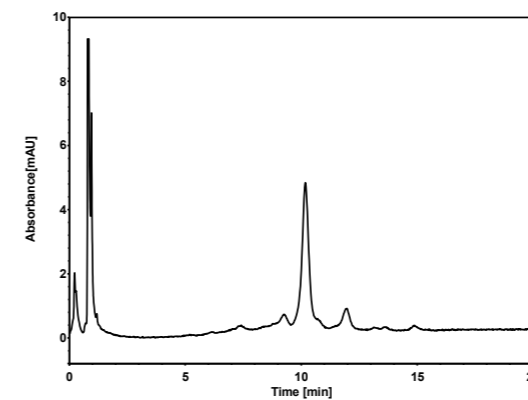
- Optimal selectivity for separating antibody charged variants
- Good peak shape and low carryover
- High column efficiency and mechanical strength
- Excellent tolerance to acids, bases and organic solvents
- Good column-to-column consistency

Specifications

Product Name	BioCore SCX
Functional Group	Sulfonic Acid
Substrate	Monodispersed, spherical PS/DVB particles
Particle Size	5 & 10 μ m
Pore Size	Nonporous
Pressure Limit	4500 psi for 10 μ m, 5000 psi for 5 μ m
Temperature Limit	60 $^{\circ}$ C
pH Range	2-12

Applications

IgG2

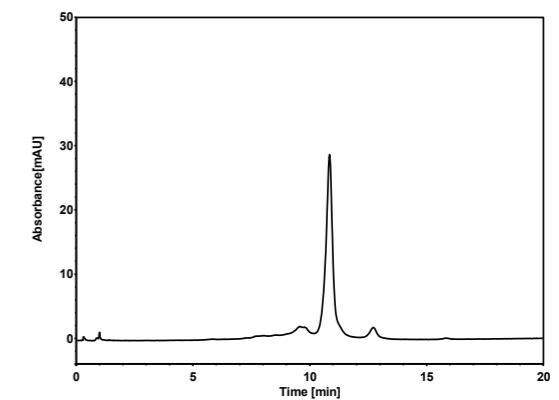


Column: BioCore SCX, 10 μ m
 Dimension: 4.6 \times 150 mm
 Mobile Phase: A) 20 mM MES, pH6.5
 B) 300mM NaCl in 20 mM MES, pH6.5
 Gradient:

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 $^{\circ}$ C
 Injection: 10 μ L
 Detection: UV 280 nm
 Sample: IgG2 (1 mg/mL in H₂O)

IgG4

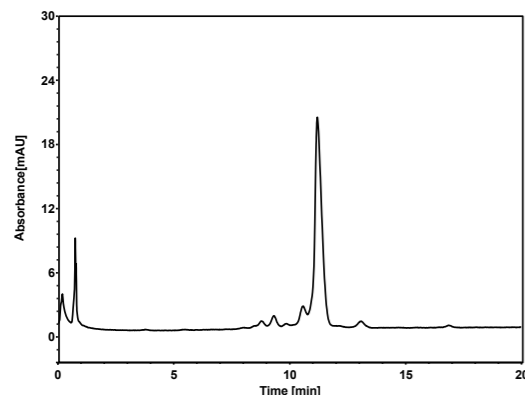


Column: BioCore SCX, 10 μ m
 Dimension: 4.6 \times 150 mm
 Mobile Phase: A) 20 mM MES, pH6.5
 B) 300mM NaCl in 20 mM MES, pH6.5
 Gradient:

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 $^{\circ}$ C
 Injection: 10 μ L
 Detection: UV 280 nm
 Sample: IgG4 (1 mg/mL in H₂O)

Fusion Protein

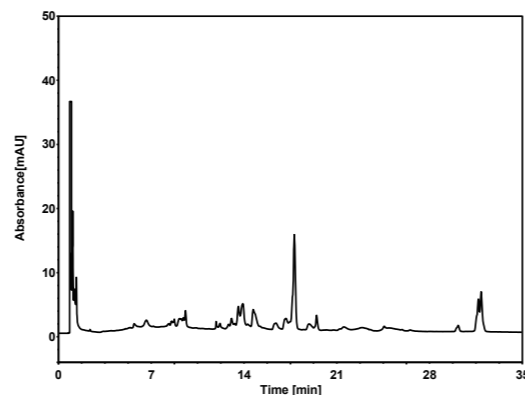


Column: BioCore SCX, 10 µm
 Dimension: 4.6×150 mm
 Mobile Phase: A) 20 mM MES, pH6.0
 B) 300mM NaCl in 20 mM MES, pH6.0
 Gradient:

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 °C
 Injection: 10 µL
 Detection: UV 280 nm
 Sample: Fusion Protein (2.5 mg/mL in mobile phase A)

Snake Venom

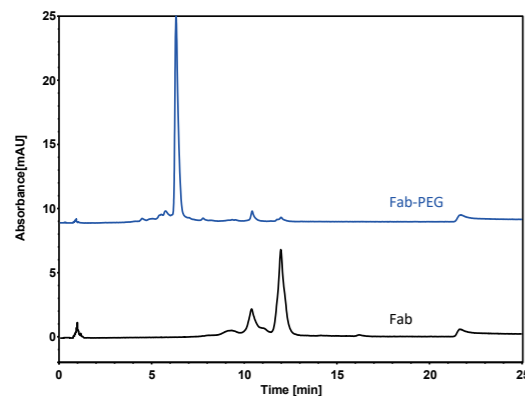


Column: BioCore SCX, 5 µm
 Dimension: 4.6×150 mm
 Mobile Phase: A) 20 mM Tris-HCl, pH6.0
 B) 300 mM NaCl in 20 mM Tris-HCl, pH6.0
 Gradient:

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

 Flow Rate: 1.0 mL/min
 Temperature: 30 °C
 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 °C
 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, in combination with a well-established column packing process.

Main Features

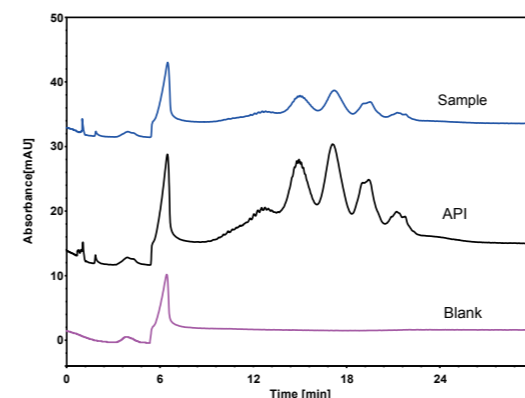
- Optimal selectivity for separating negatively charged variants in proteins
- Good peak shape and low carryover
- High column efficiency and mechanical strength
- Excellent tolerance to acids, bases and organic solvents
- Good column-to-column consistency

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

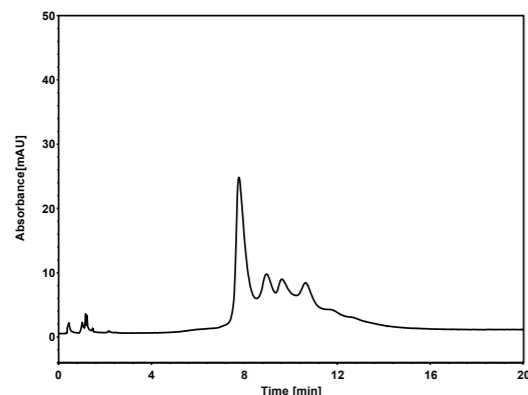


Column: BioCore SAX, 10 µm
 Dimension: 4.6×250 mm
 Mobile Phase: A) 20 mM phosphate buffer, pH3.0
 B) 300 mM NaCl in 20 mM phosphate buffer, pH3.0
 Gradient:

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 °C
 Detection: UV 280 nm
 Sample: API (40 mg/mL in mobile phase A)
 Injection sample (10 mg/mL)

Recombinant Fusion Protein

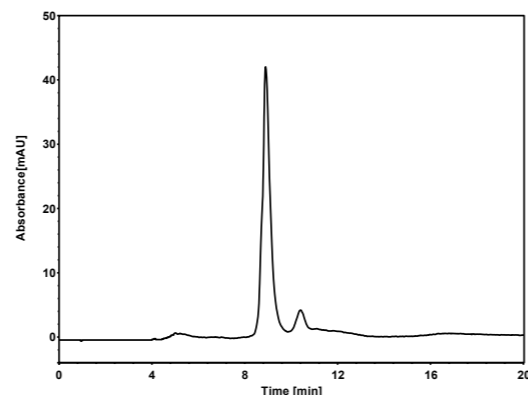


Column: BioCore SAX, 10 µm
 Dimension: 4.6 × 150 mm
 Mobile Phase: A) 20 mM MES, pH6.5
 B) 300 mM NaCl in 20 mM MES, pH6.5
 Gradient:

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 °C
 Detection: UV 280 nm
 Sample: Recombinant Fusion Protein (1 mg/mL in H₂O)

BSA

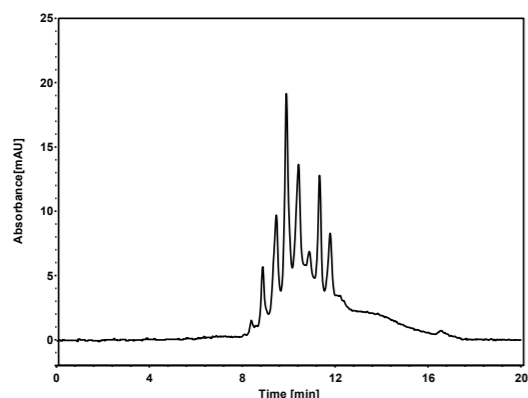


Column: BioCore SAX, 10 µm
 Dimension: 4.6 × 150 mm
 Mobile Phase: A) 20 mM Tris, pH8.5
 B) 500 mM NaCl in 20 mM Tris, pH8.5
 Gradient:

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 °C
 Detection: UV 280 nm
 Sample: BSA (5 mg/mL in H₂O)

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 °C
 Detection: UV 280 nm
 Sample: Ovalbumin (5 mg/mL in H₂O)

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 differences 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 increases 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, in combination with well-established column packing processes.

Main Features

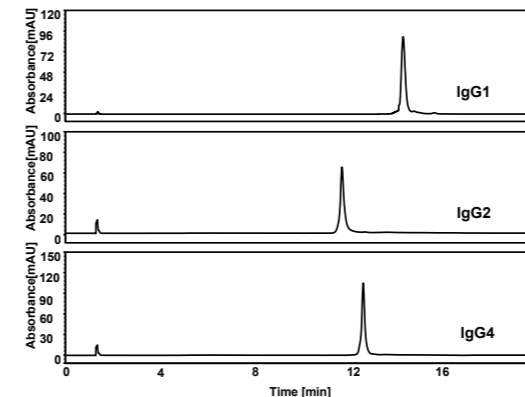
- Optimal selectivity for the DAR analysis in ADCs
- Minimal undesired interactions for low carryover
- High column efficiency
- Excellent mechanical strength for column robustness
- Good column-to-column consistency

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

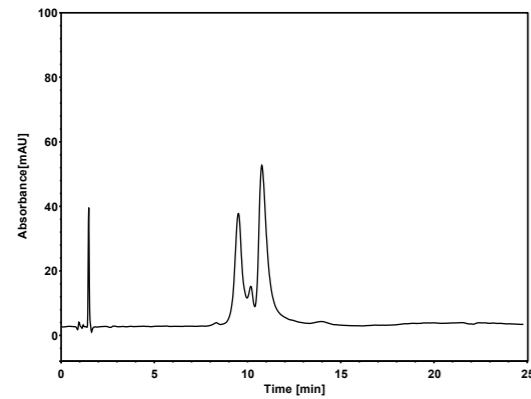


Column: BioCore HIC-Butyl, 5 µm
 Dimension: 4.6 × 100 mm
 Mobile Phase: A) 2.0 M (NH₄)₂SO₄ in 100 mM phosphate buffer, pH7.0
 B) 100 mM phosphate buffer, pH7.0
 Gradient:

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 °C
 Injection: 10 µL
 Detection: UV 280 nm
 Sample: IgG1, IgG2 and IgG4 (~1 mg/mL each in mobile phase A)

Bispecific Antibody

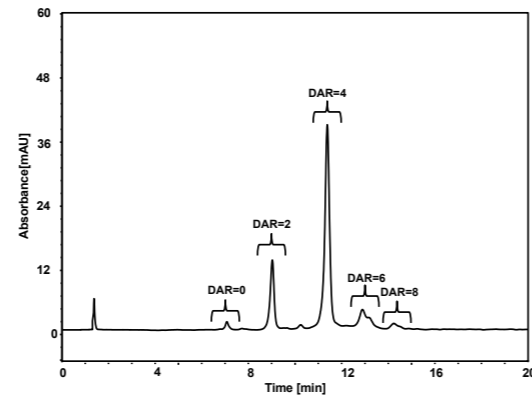


Column: BioCore HIC-Butyl, 5 μm
 Dimension: 4.6 × 100 mm
 Mobile Phase: A) 2.0 M (NH₄)₂SO₄ in 100 mM phosphate buffer, pH7.0
 B) 100 mM phosphate buffer, pH7.0
 C) Isopropanol
 Gradient:

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 °C
 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 (NH₄)₂SO₄ 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 °C
 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, in combination 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

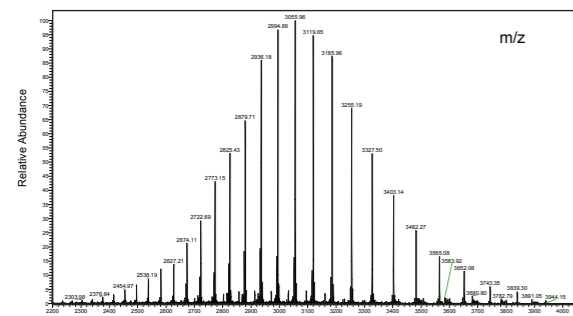
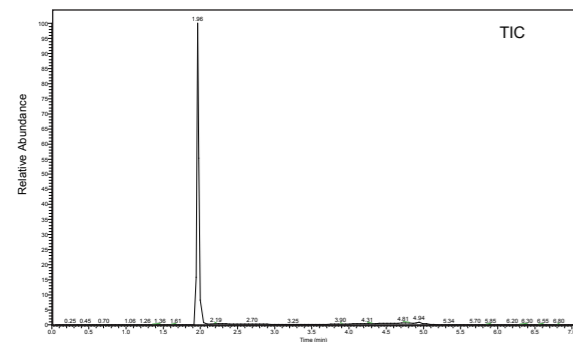
Product Name	BioCore RP-Butyl
Functional Group	Butyl
Substrate	Monodispersed, spherical PS/DVB particles
Particle Size	5 μm
Pore Size	Nonporous
Pressure Limit	4500 psi
Temperature Limit	100 °C
pH Range	2-12

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



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, in combination with well-established column packing processes.

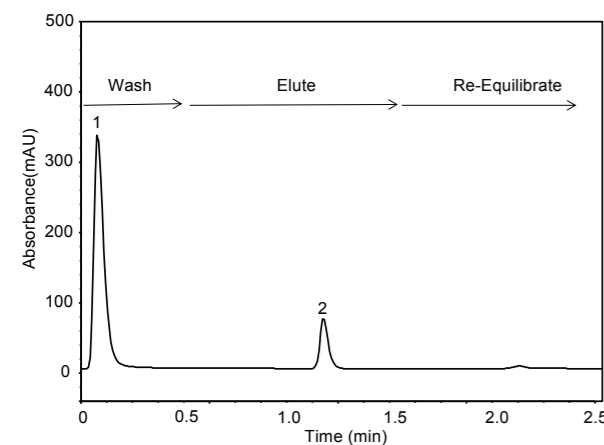
Main Features

- 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

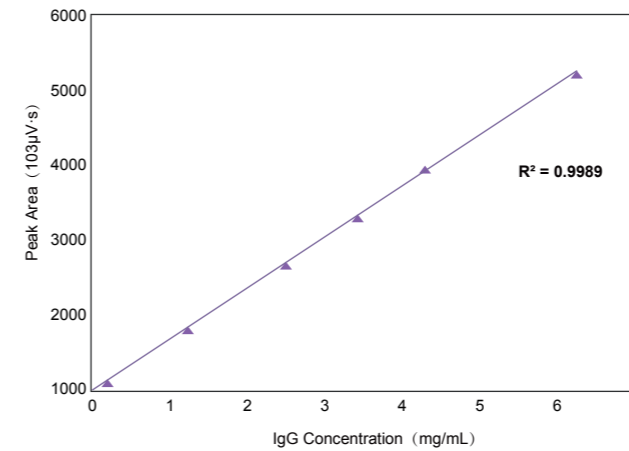
Product Name	BioCore Protein A
Functional Group	pH stable rProtein A
Substrate	Monodispersed, porous, spherical PS/DVB particles
Particle Size	15 μm
Pore Size	1000 Å
Pressure Limit	1450 psi
Temperature Limit	2-40 °C
pH Range	2-12
Dynamic Binding Capacity	≥20 mg/mL (IgG)
Linear Range (≥0.99)	0-200 μg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

Titer Analysis in HCC



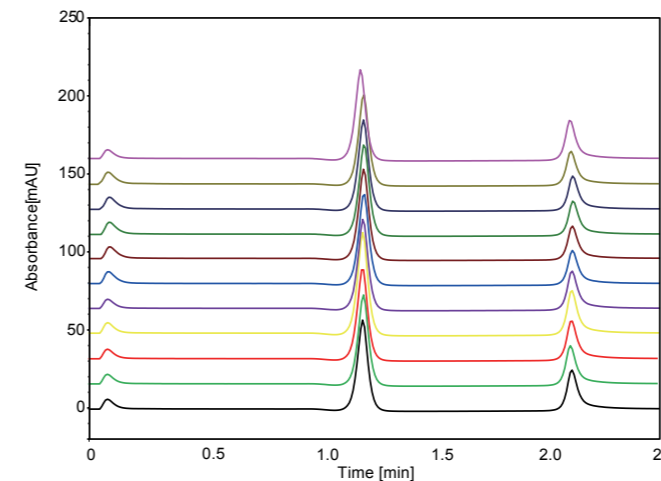
Column: BioCore Protein A, 15 μm
 Dimension: 2.1×30 mm
 Mobile Phase: A) 150 mM NaCl in 50 mM phosphate buffer, pH7.0
 B) 150 mM NaCl in 50 mM phosphate buffer, pH2.5
 Gradient: t(min) %A %B
 0 100 0
 0.5 100 0
 0.51 0 100
 1.5 0 100
 1.51 100 0
 2.5 100 0
 Flow Rate: 2.0 mL/min
 Temperature: 30 °C
 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 °C
 Injection: 20 μL
 Detection: UV 280 nm
 Sample: IgG (0-6.25 mg/mL in H₂O)

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 °C
 Injection: 20 μL
 Detection: UV 280 nm
 Sample: IgG (1 mg/mL in H₂O)

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

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

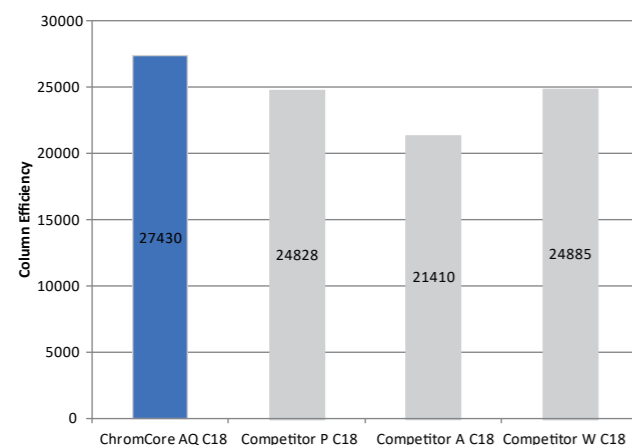
ChromCore™ Reversed-Phase LC Columns

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

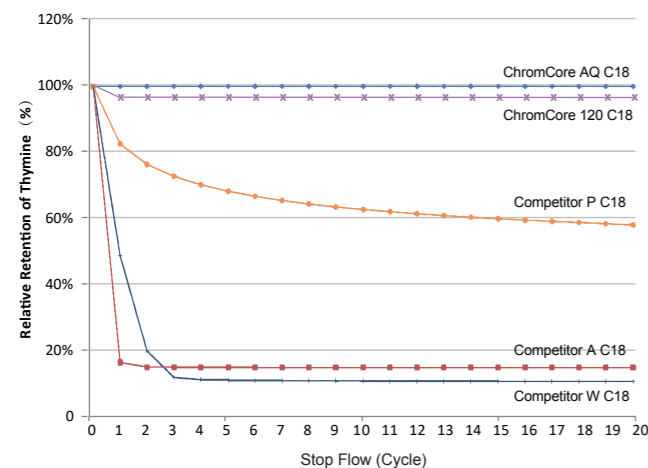
Column Efficiency



Column: ChromCore AQ C18, 5 μm
 Dimension: 4.6×250 mm
 Mobile Phase: 60/40 v/v MeCN/D.I. H₂O
 Flow Rate: 1 mL/min
 Temperature: 30 °C
 Injection: 5 μL
 Detection: UV 254 nm
 Analyte: Naphthalene

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

Aqueous Compatibility



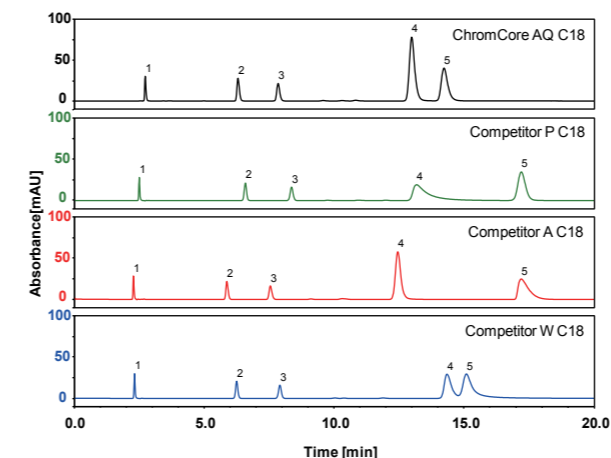
Testing Condition
 Column: C18, 5 μm
 Dimension: 4.6×150 mm
 Mobile Phase: 10 mM ammonium acetate buffer, pH5.2
 Flow Rate: 1 mL/min
 Temperature: 30 °C
 Injection: 5 μL
 Detection: UV 254 nm
 Analyte: 1. Cytosine
 2. Uracil
 3. Thymine

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).

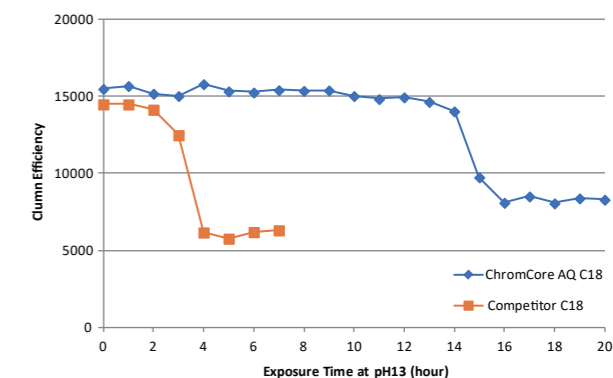


Column: ChromCore AQ C18, 5 μm
 Dimension: 4.6×250 mm
 Mobile Phase: 80/20 v/v MeOH/20 mM phosphate buffer, pH7.0
 Flow Rate: 1 mL/min
 Temperature: 30 °C
 Injection: 5 μL
 Detection: UV 254 nm
 Peaks: 1. Uracil
 2. Toluene
 3. Ethylbenzene
 4. Quinizarin
 5. Amitriptyline

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

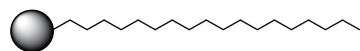
Compared with a brand name C18 column based on conventional silica particles, ChromCore AQ C18 demonstrates significantly enhanced chemical stability in alkaline conditions as the result of its high pH resistance nature of base particle and the protection of densely bonded surface.



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 °C
 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 °C

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.

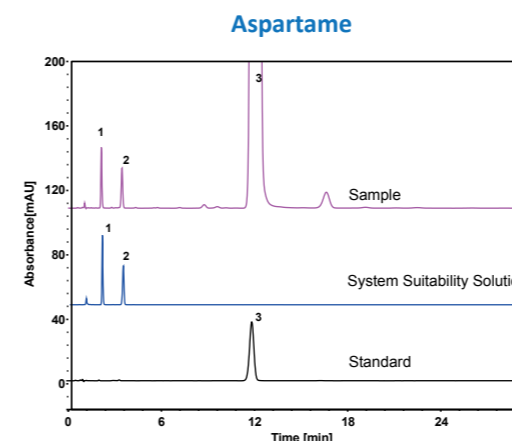
Main Features

- 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

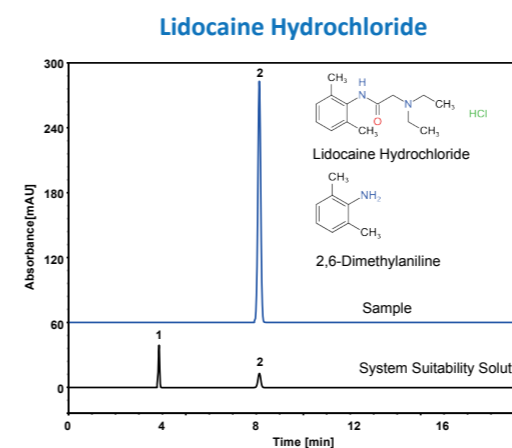
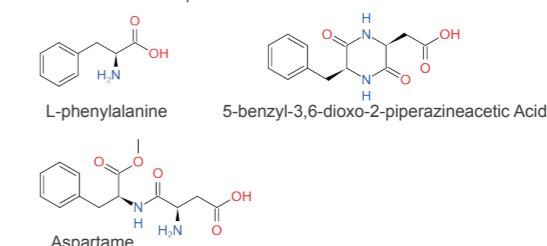
Specifications

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

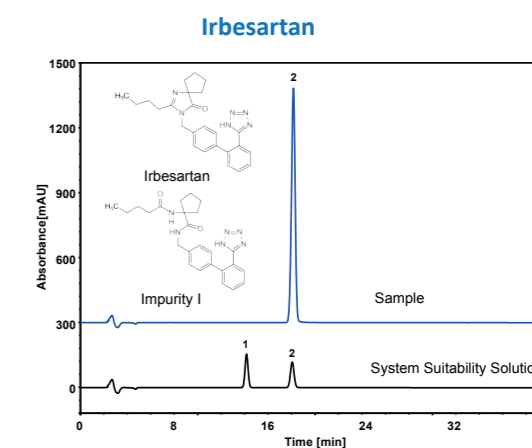


Column: ChromCore 120 C18, 5 µm
 Dimension: 4.6 × 150 mm
 Mobile Phase: 18/82 v/v MeOH/50 mM potassium dihydrogen phosphate in H₂O pH4.3 adjusted by phosphoric acid
 Flow Rate: 2.0 mL/min
 Temperature: 40 °C
 Injection: 20 µL
 Detection: UV 210 nm
 Sample: Aspartame
 Peaks: 1. L-phenylalanine
 2. 5-benzyl-3,6-dioxo-2-piperazineacetic Acid
 3. Aspartame



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 °C
 Injection: 20 µL
 Detection: UV 230 nm
 Peaks: 1. Impurity I (2,6-Dimethylaniline)
 2. Lidocaine

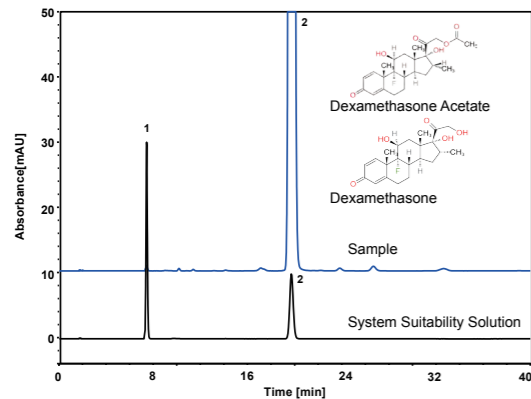
	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
2,6-Dimethylaniline	4.697	10777	1.13	/	/
Lidocaine	7.950	12141	1.10	13.54	605.2



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 °C
 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

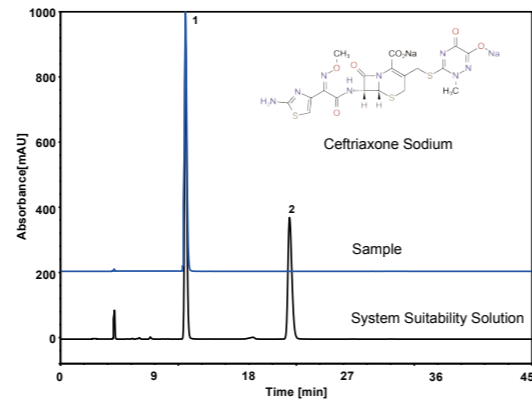
Dexamethasone Acetate



Column: ChromCore 120 C18, 5 µm
 Dimension: 4.6 × 250 mm
 Mobile Phase: 40/60 v/v MeCN/H₂O
 Flow Rate: 1.0 mL/min
 Temperature: 25 °C
 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

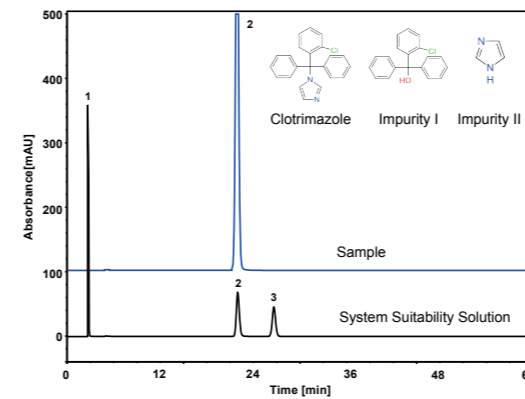
Ceftriaxone Sodium



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 °C
 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	/

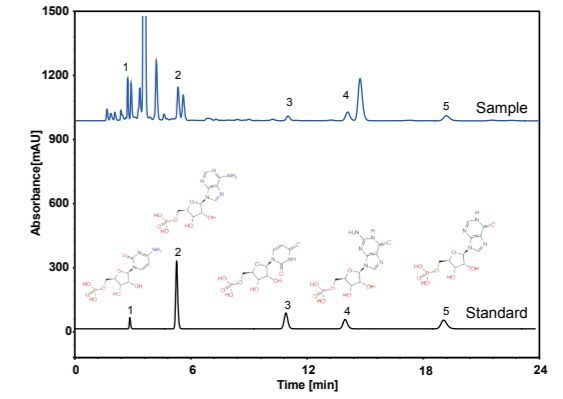
Clotrimazole



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 °C
 Injection: 20 µL
 System Suitability Solution: 10 µL
 Sample: 20 µL
 Detection: UV 215 nm
 Peaks: 1. Impurity II
 2. Clotrimazole
 3. Impurity I

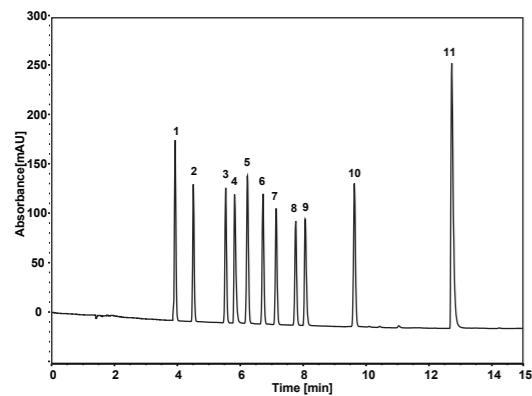
	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Impurity II	2.713	15129	1.38	/	/
Clotrimazole	21.947	15007	1.12	47.75	53.6
Impurity I	26.603	17909	1.05	6.16	/

Five Nucleotides in Dairy Products

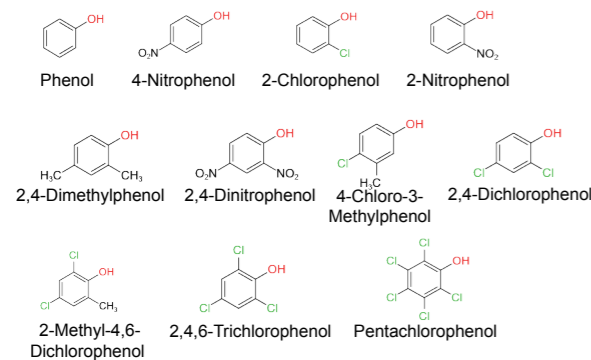


Column: ChromCore 120 C18, 5 µm
 Dimension: 4.6 × 250 mm
 Mobile Phase: 96/4 v/v 1.4 mM tetrabutyl ammonium hydrogen sulfate in 10 mM potassium phosphate buffer, pH2.5/MeOH
 Flow Rate: 1.0 mL/min
 Temperature: 25 °C
 Injection: 10 µL
 Detection: UV 254 nm
 Peaks: 1. CMP
 2. AMP
 3. UMP
 4. GMP
 5. IMP

Phenolic Compounds (U.S. EPA 604)



Column: ChromCore 120 C18, 3 µm
 Dimension: 4.6 × 150 mm
 Mobile Phase: A) MeCN
 B) 0.1% phosphoric acid in H₂O
 Gradient: t(min) %A %B
 -5 30 70
 0 30 70
 15 90 10
 Flow Rate: 1.0 mL/min
 Temperature: 40 °C
 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

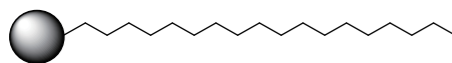


Ordering Information

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	
	1.8	30	A001-030012-04603S	A001-030012-03003S	A001-030012-02103S	
		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

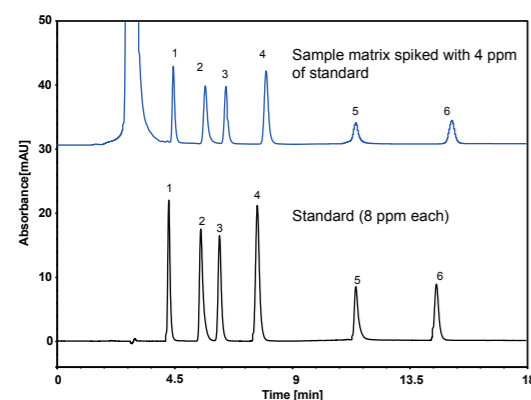
- C18 selectivity with 100% aqueous compatibility
- Excellent chromatographic peak shape for acidic, basic and neutral analytes
- Low column bleed, fully compatible with MS applications
- Good column-to-column consistency

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

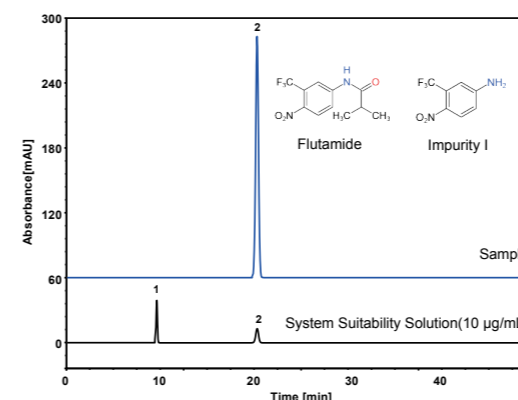
Applications

Sildenafil in Urine



Column: ChromCore AQ C18, 5 μm
 Dimension: 4.6 × 250 mm
 Mobile Phase: A) H₂O
 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

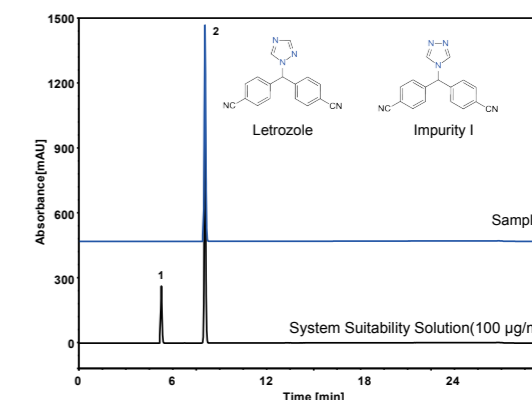
Flutamide



Column: ChromCore AQ C18, 5 μm
 Dimension: 4.6 × 250 mm
 Mobile Phase: 55/45 v/v H₂O/MeCN
 Flow Rate: 1.0 mL/min
 Temperature: 25 °C
 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

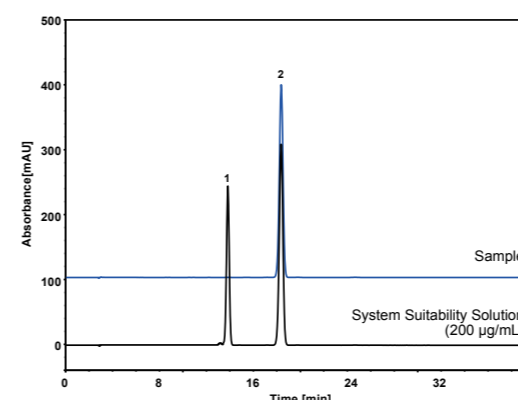
Letrozole



Column: ChromCore AQ C18, 5 μm
 Dimension: 4.6 × 150 mm
 Mobile Phase: A) H₂O
 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 °C
 Injection: 20 μL
 Detection: UV 230 nm
 Peaks: 1. Impurity I
 2. Letrozole

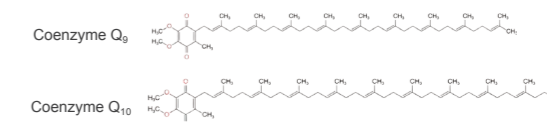
	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Impurity I	5.240	22079	1.10	/	/
Letrozole	8.030	36020	1.06	17.98	15.8

Coenzyme Q₉ and Coenzyme Q₁₀

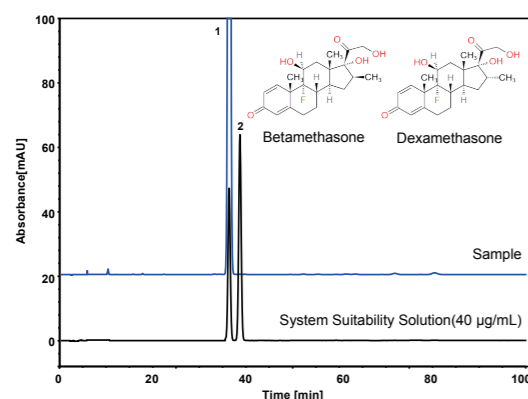


Column: ChromCore AQ C18, 5 μm
 Dimension: 4.6 × 250 mm
 Mobile Phase: 50/50 v/v MeOH/EtOH
 Flow Rate: 1.0 mL/min
 Temperature: 35 °C
 Injection: 20 μL
 Detection: UV 275 nm
 Peaks: 1. Coenzyme Q₉
 2. Coenzyme Q₁₀

	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



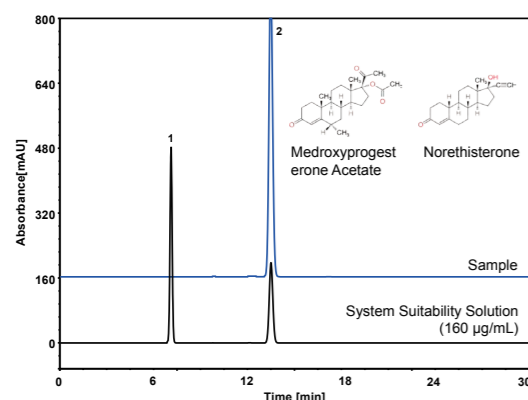
Betamethasone



Column: ChromCore AQ C18, 5 µm
 Dimension: 4.6 × 250 mm
 Mobile Phase: 25/75 v/v MeCN/H₂O
 Flow Rate: 1.0 mL/min
 Temperature: 25 °C
 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	/

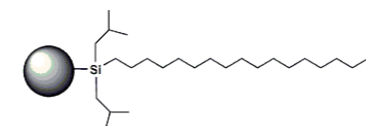
Medroxyprogesterone Acetate



Column: ChromCore AQ C18, 5 µm
 Dimension: 4.6 × 250 mm
 Mobile Phase: 70/30 v/v MeOH/H₂O
 Flow Rate: 1.0 mL/min
 Temperature: 25 °C
 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

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

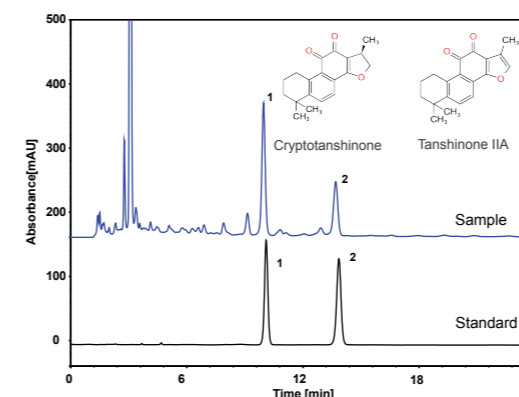
Product Name	ChromCore AR C18
Functional Group	Sterically protected octadecyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 & 5 µm
Pore Size	120 Å
Surface Area	300 m ² /g
Carbon Load	12%
End-capped	No
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm
Temperature Limit	60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

Ordering Information

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

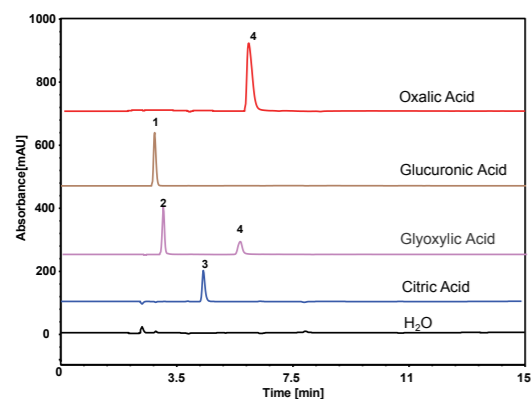
Applications

Clozapine Gel

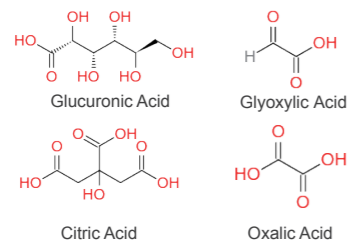


Column: ChromCore AR C18, 5 µm
 Dimension: 4.6 × 250 mm
 Mobile Phase: 75/25 v/v MeOH/H₂O
 Flow Rate: 1.0 mL/min
 Temperature: 25 °C
 Injection: 10 µL
 Detection: UV 254 nm
 Peaks: 1. Cryptotanshinone
 2. Tanshinone IIA

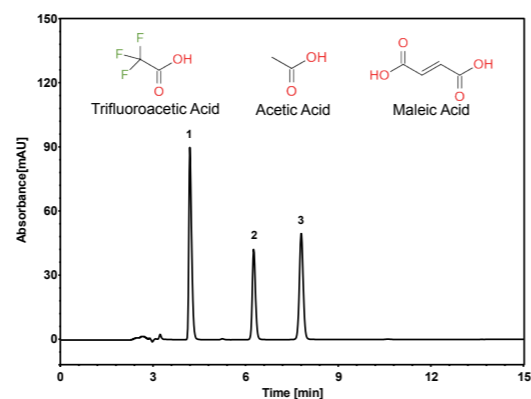
Four Organic Acids



Column: ChromCore AR C18, 5 μ m
 Dimension: 4.6 \times 250 mm
 Mobile Phase: 5/95 v/v MeCN/0.1% tetrabutylammonium hydrogen sulfate in 50 mM NaH₂PO₄, pH2.0
 Flow Rate: 1.0 mL/min
 Temperature: 35 °C
 Injection: 10 μ L
 Detection: UV 210 nm
 Peaks: 1. Glucuronic Acid
 2. Glyoxylic Acid
 3. Citric Acid
 4. Oxalic Acid



Three Organic Acids



Column: ChromCore AR C18, 5 μ m
 Dimension: 4.6 \times 250 mm
 Mobile Phase: 55 mM phosphate buffer, pH2.5
 Flow Rate: 1.0 mL/min
 Temperature: 25 °C
 Injection: 10 μ L
 Detection: UV 200 nm
 Peaks: 1. Trifluoroacetic Acid (1 mg/mL)
 2. Acetic Acid (1 mg/mL)
 3. Maleic Acid (0.008 mg/mL)

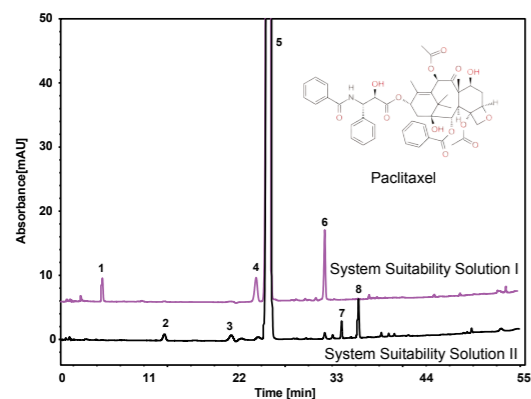
Component	R.T. (min)	Theoretical Plates	Tailing Factor	Resolution
Trifluoroacetic Acid	4.189	9337	1.44	/
Acetic Acid	6.255	17757	1.15	11.4
Maleic Acid	7.792	18978	1.06	7.3

Ordering Information

Product Name	Particle Size (μ m)	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
		150	A401-030012-04615S	A401-030012-03015S	A401-030012-02115S
	3	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

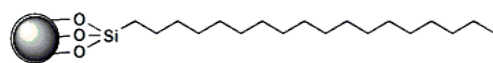
For more information, please visit <http://www.nanochrom.com>

Paclitaxel (EP)



Column: ChromCore AR C18, 3 μ m
 Dimension: 4.6 \times 150 mm
 Mobile Phase: A) MeCN
 B) 2/3 v/v MeCN/H₂O
 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 °C
 Injection: 15 μ L
 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

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

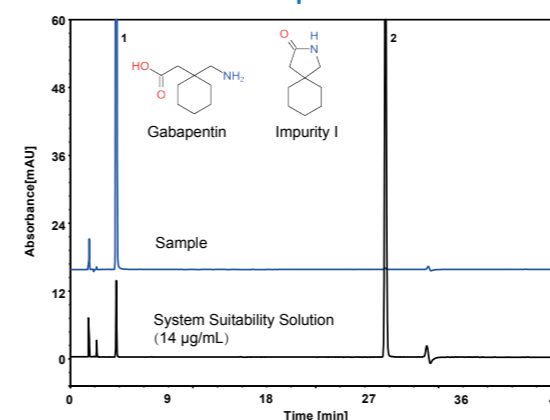
- Enhanced chemical stability under alkaline conditions
- Good peak shape for both acidic and basic compounds
- Improved shape selectivity for structural related compounds
- Low column bleed, compatible with MS applications

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 \AA
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 $^{\circ}\text{C}$
pH Range	1.5-11.0
Aqueous Compatibility	95% aqueous

Applications

Gabapentin

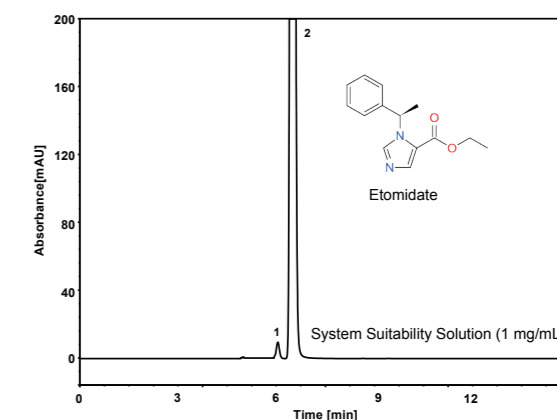


Column: ChromCore BR C18, 5 μm
 Dimension: 4.6 \times 250 mm
 Mobile Phase: A) 6/94 v/v MeCN/ 9.4 mM phosphate buffer, pH6.9 adjusted by 5 mol/L KOH solution
 B) 30/70 v/v MeCN/ 9.4 mM phosphate buffer, pH6.9 adjusted by 5 mol/L KOH solution
 Gradient:

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

 Flow Rate: 1.5 mL/min
 Temperature: 40 $^{\circ}\text{C}$
 Injection: 20 μL
 Detection: UV 210 nm
 Peaks: 1. Gabapentin
 2. Impurity I

Etomidate



Column: ChromCore BR C18, 5 μm
 Dimension: 4.6 \times 250 mm
 Mobile Phase: 60/40 v/v MeOH/0.062% ammonium acetate solution
 Flow Rate: 1.0 mL/min
 Temperature: 50 $^{\circ}\text{C}$
 Injection: 5 μL
 Detection: UV 240 nm
 Peaks: 1. Impurity I
 2. Etomidate

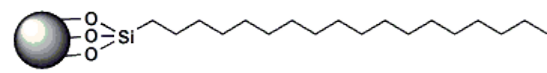
	R.T. (min)	Theoretical Plates (USP)	Tailing Factor (USP)	Resolution (USP)
Etomidate	6.500	18810	1.14	2.41

Ordering Information

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

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.

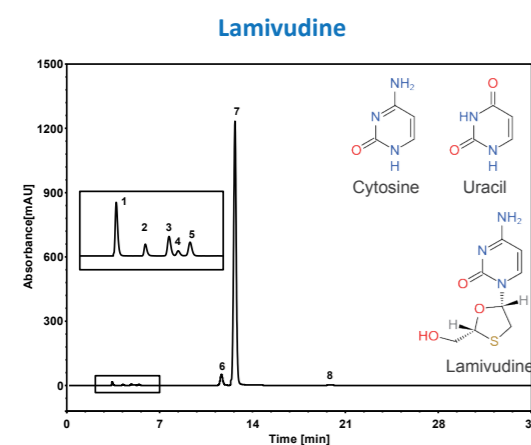
Main Features

- 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

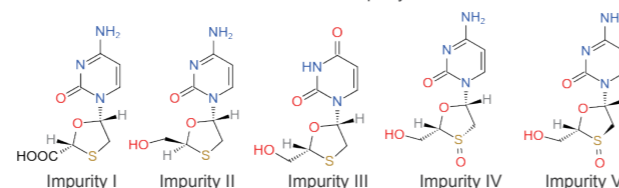
Specifications

Product Name	ChromCore 120 C18-T
Functional Group	Octadecyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 & 5 μm
Pore Size	120 \AA
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 $^{\circ}\text{C}$
pH Range	1.5-10.0
Aqueous Compatibility	95% aqueous

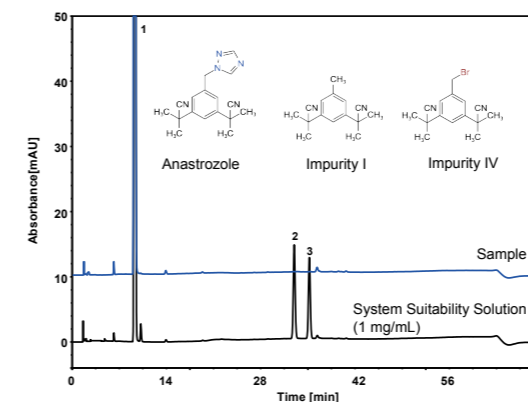
Applications



Columns: ChromCore 120 C18-T, 5 μm
 Dimension: 4.6 \times 250 mm
 Mobile Phase: 5/95 v/v MeOH/25 mM ammonium acetate solution, pH3.8
 Flow Rate: 1.0 mL/min
 Temperature: 35 $^{\circ}\text{C}$
 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

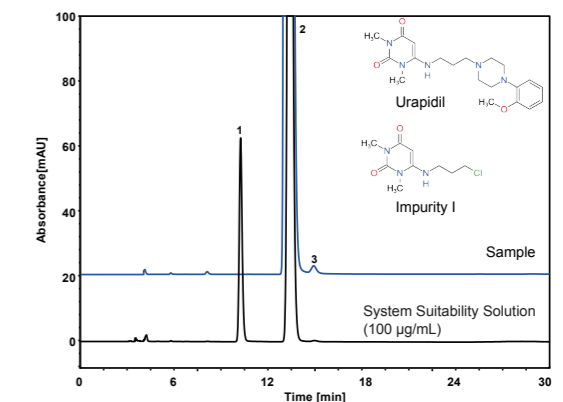


Column: ChromCore 120 C18-T, 5 μm
 Dimension: 4.6 \times 250 mm
 Mobile Phase: A) 40/60 v/v MeCN/ H_2O
 B) 60/40 v/v MeCN/ H_2O
 Gradient:

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 $^{\circ}\text{C}$
 Injection: 10 μL
 Detection: UV 215 nm
 Peaks: 1. Anastrozole
 2. Impurity I
 3. Impurity IV

Urapidil



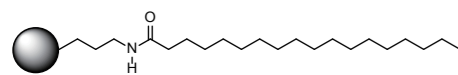
Column: ChromCore 120 C18-T, 5 μm
 Dimension: 4.6 \times 250 mm
 Mobile Phase: 30/70 v/v MeOH/100 mM sodium acetate solution
 Flow Rate: 1.0 mL/min
 Temperature: 25 $^{\circ}\text{C}$
 Injection: 20 μL
 Detection: UV 268 nm
 Peaks: 1. Impurity I
 2. Urapidil
 3. Impurity II

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
	3	50	A501-050012-04605S	A501-050012-03005S	A501-050012-02105S
		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

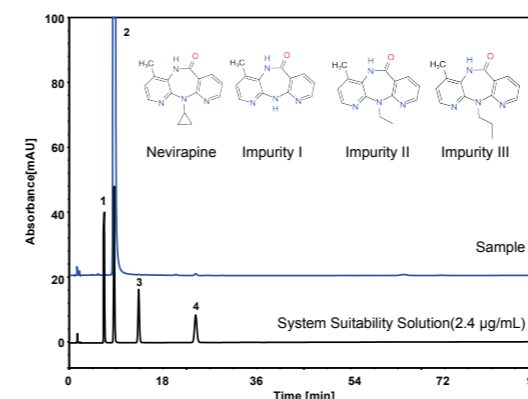
- Selectivity complimentary to general C18
- Enhanced retention for polar compounds especially containing hydrogen bond donor
- 100% aqueous compatibility
- Low column bleed, compatible with MS applications

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 \AA
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 $^{\circ}\text{C}$
pH Range	2-10
Aqueous Compatibility	100% aqueous

Applications

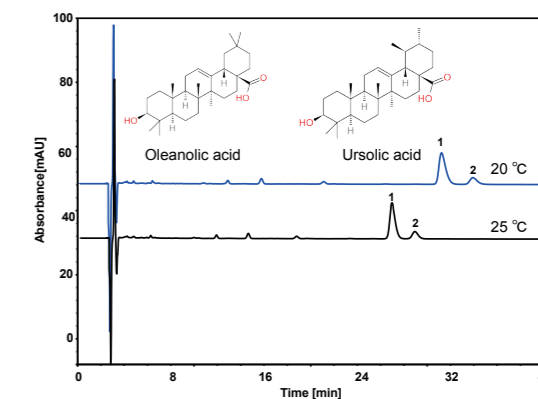
Nevirapine



Column: ChromCore Polar C18, 5 μm
 Dimension: 4.6 \times 150 mm
 Mobile Phase: 20/80 v/v MeCN/25 mM phosphate buffer, pH5.0
 Flow Rate: 1.0 mL/min
 Temperature: 25 $^{\circ}\text{C}$
 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 \times 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 $^{\circ}\text{C}$ / 25 $^{\circ}\text{C}$
 Injection: 10 μL
 Detection: UV 210 nm
 Peaks: 1. Oleanolic acid
 2. Ursolic acid

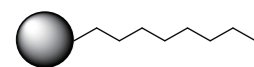
Temperature	Resolution
20 $^{\circ}\text{C}$	2.42
25 $^{\circ}\text{C}$	2.16

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
	3	50	A060-050012-04605S	A060-050012-03005S	A060-050012-02105S
		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.

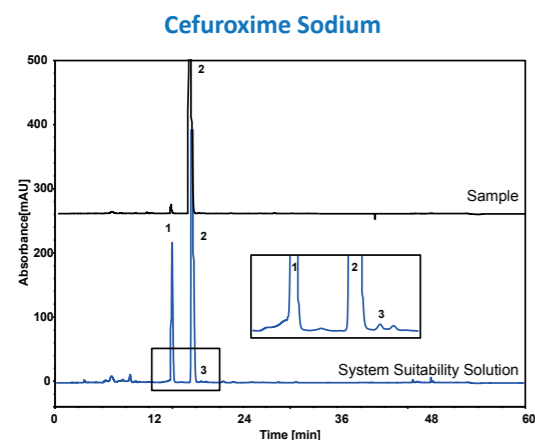
Main Features

- 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

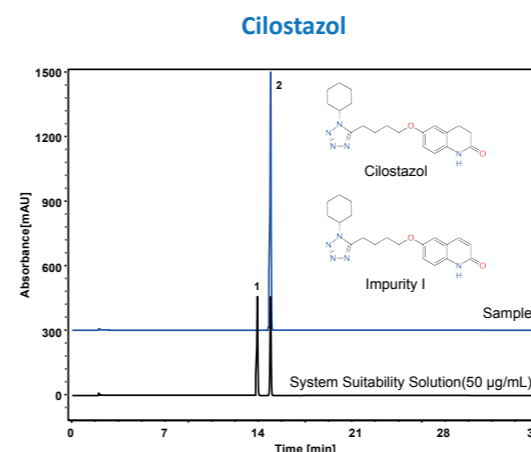
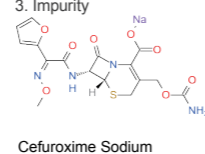
Specifications

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

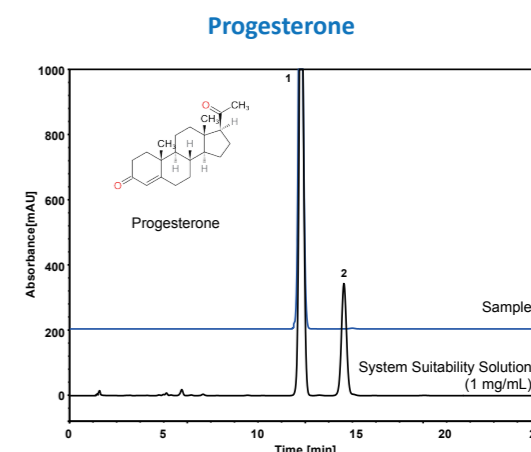


Column: ChromCore 120 C8, 5 μm
 Dimension: 4.6×250 mm
 Mobile Phase: A) MeCN
 B) 104.2 mM sodium acetate solution, pH3.4
 Gradient: t(min) %A %B
 0 5 95
 40 20 80
 50 40 60
 51 5 95
 60 5 95
 Flow Rate: 1.5 mL/min
 Temperature: 30 °C
 Injection: 20 μL
 Detection: UV 273 nm
 Peaks: 1. Descarbamoyl Cefuroxime
 2. Cefuroxime
 3. Impurity



Column: ChromCore 120 C8, 5 μm
 Dimension: 4.6×150 mm
 Mobile Phase: A) H₂O
 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 °C
 Injection: 20 μL
 Detection: UV 254 nm
 Peaks: 1. Impurity I
 2. Cilostazol

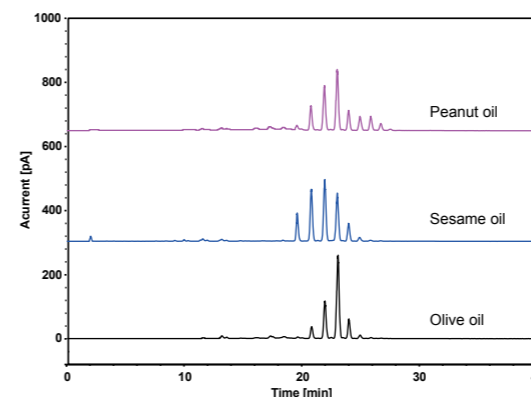
	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Impurity I	13.900	167936	0.97	/	/
Cilostazol	14.897	169986	0.90	7.11	49.3



Column: ChromCore 120 C8, 5 μm
 Dimension: 4.6×150 mm
 Mobile Phase: 25/35/40 v/v/v MeOH/MeCN/H₂O
 Flow Rate: 1.0 mL/min
 Temperature: 25 °C
 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



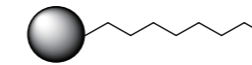
Column: ChromCore 120 C8, 5 μm
 Dimension: 4.6×150 mm
 Mobile Phase: A) MeCN
 B) Isopropanol
 C) 100 mM ammonium acetate solution, pH5.0
 Gradient: t(min) %A %B %C
 -10 90 5 5
 0 90 5 5
 30 0 95 5
 40 0 95 5
 Flow Rate: 1.0 mL/min
 Injection: 5 μL
 Temperature: 30 °C
 Detection: CAD
 Sample: Cooking 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

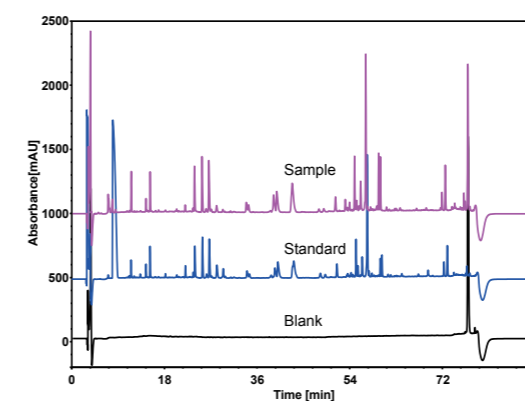
- C8 selectivity with 100% aqueous compatibility
- Well suited for intermediate to high hydrophobic compounds analysis
- Excellent chromatographic peak shape for acidic, basic and neutral analytes
- Low column bleed, fully compatible with MS applications
- Good column-to-column consistency

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 H₂O
 B) 0.1% TFA in 90% MeCN/H₂O

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

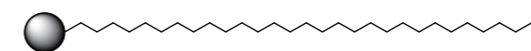
Flow Rate: 1.0 mL/min
 Temperature: 35 °C
 Injection: 100 μL
 Detection: UV 214 nm
 Sample: Enzymatic hydrolysates of rhGH by trypsin

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

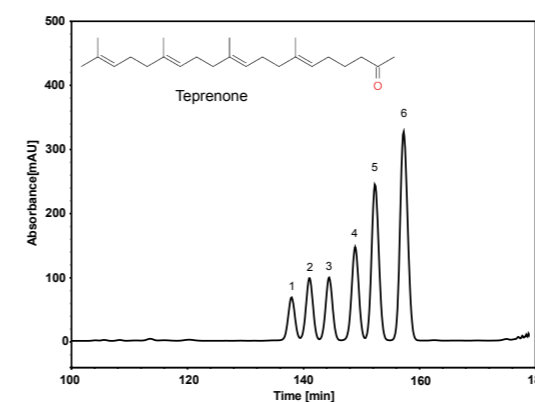
- Good selectivity for highly hydrophobic, long-chain and structurally related compounds
- Enhanced shape selectivity for geometric and positional isomers
- Compatible with both highly aqueous and highly organic solvent conditions
- Good column-to-column consistency

Specifications

Product Name	ChromCore C30
Functional Group	Triacetyldimethyl
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

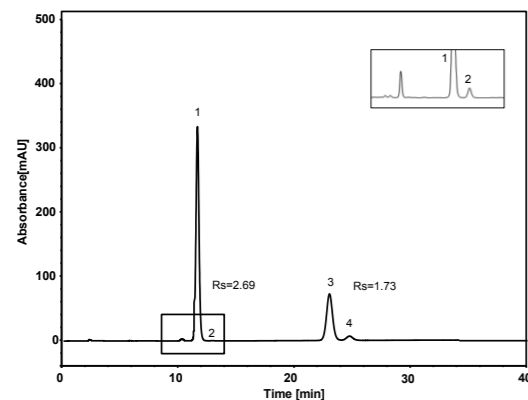


Column: ChromCore C30, 5 μm
 Dimension: 4.6 × 250 mm
 Mobile Phase: A) H₂O
 B) MeCN
 Gradient:

t(min)	%A	%B
0	40	60
20	40	60
170	25	75
180	10	90
190	10	90

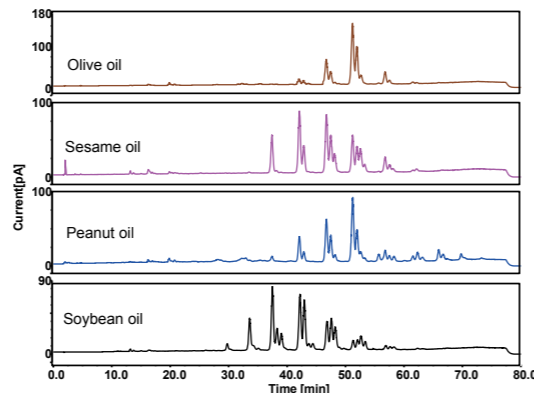
Flow Rate: 1.0 mL/min
 Temperature: 20 °C
 Injection: 5 μL
 Detection: UV 205 nm
 Peaks: 1-4. Teprenone isomer
 5-6. Teprenone

Isomers of Vitamin K1 and K2



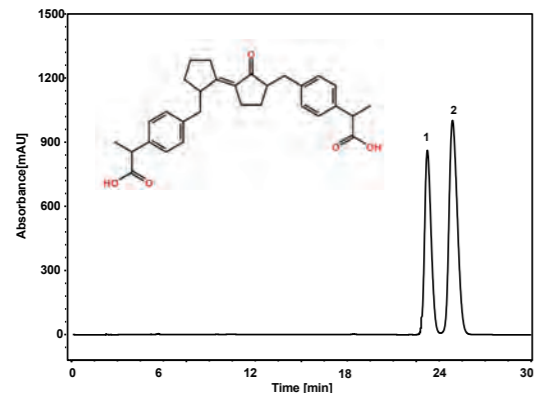
Column: ChromCore C30, 5 µm
 Dimension: 4.6 × 250 mm
 Mobile Phase: 95/5 v/v MeOH/H₂O
 Flow Rate: 1.0 mL/min
 Temperature: 20 °C
 Injection: 5 µL
 Detection: UV 254 nm
 Sample: Vitamin K1 & K2 in MeCN
 Peaks: 1. Vitamin K2
 2. Isomer of Vitamin K2
 3. Vitamin K1
 4. Isomer of Vitamin K1

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 °C
 Injection: 5 µL
 Detection: CAD
 Sample: Cooking oils (5 mg/mL)

Cis-trans Isomers

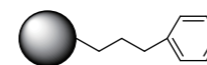


Column: ChromCore C30, 5 µm
 Dimension: 4.6 × 250 mm
 Mobile Phase: 50/50 v/v MeCN/0.1% phosphoric acid in H₂O
 Flow Rate: 1.0 mL/min
 Temperature: 40 °C
 Injection: 10 µL
 Detection: UV 254 nm
 Peaks: 1-2. Cis-trans Isomers

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
		30	A062-050018-04603S	A062-050018-03003S	A062-050018-02103S
	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

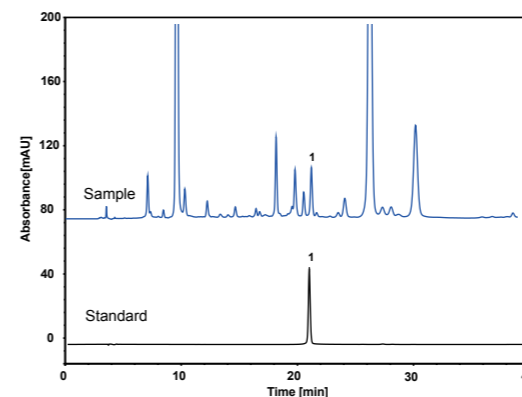
- Suitable selectivity for aromatic and heterocyclic compounds based on hydrophobic and π-π interactions
- Selectivity complementary to C18
- Low column bleed, compatible with MS applications
- Good column-to-column consistency

Specifications

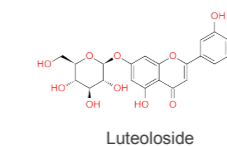
Product Name	ChromCore Phenyl
Functional Group	Propylphenyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 & 5 µm
Pore Size	120 Å
Surface Area	300 m ² /g
Carbon Load	12%
End-capped	Yes
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm
Temperature Limit	60 °C
pH Range	2-8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

Applications

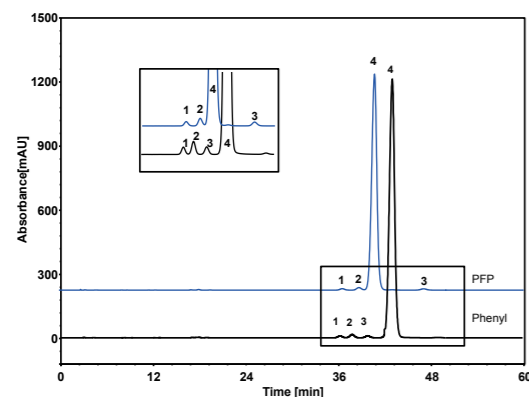
Honeysuckle



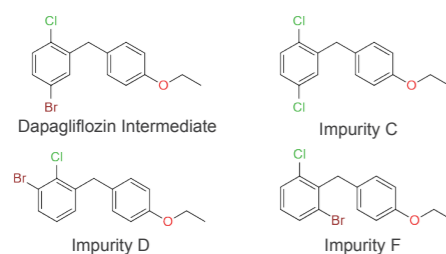
Column: ChromCore Phenyl, 5 µm
 Dimension: 4.6 × 250 mm
 Mobile Phase: A) 0.5% acetic acid in H₂O
 B) MeCN
 Gradient: t(min) %A %B
 0 90 10
 15 80 20
 30 80 20
 40 70 30
 Flow Rate: 1.0 mL/min
 Temperature: 25 °C
 Injection: 10 µL
 Detection: UV 350 nm
 Peak: 1. Luteoloside



Dapagliflozin Intermediate



Columns: ChromCore Phenyl, 5 μ m
ChromCore PFP, 5 μ m
Dimension: 4.6 \times 250 mm
Mobile Phase: 75/25 v/v MeOH/H₂O
Flow Rate: 1.0 mL/min
Temperature: 25 °C
Injection: 10 μ L
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)

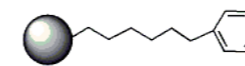


Ordering Information

Product Name	Particle Size (μ m)	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

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

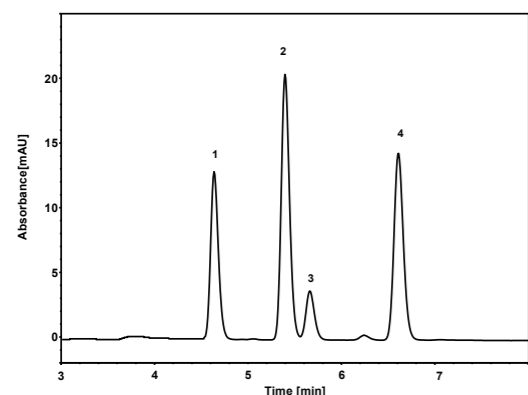
Specifications

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

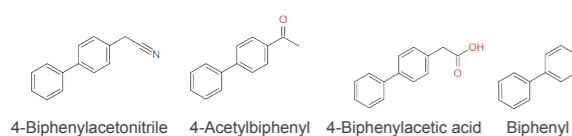
The selectivity of phenyl-hexyl is complementary to both C18 and polar C18 phases because of its unique aromaticity which can provide unique solute interaction with the aromatic ring and its delocalized electrons. Sometimes, the phenyl-hexyl phase may show good shape selectivity, which arises from solute 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 μ m
 Dimension: 4.6 \times 250 mm
 Mobile Phase: 68/15/17 v/v/v MeOH/MeCN/0.1% acetic acid in H₂O
 Flow Rate: 1.0 mL/min
 Temperature: 25 °C
 Injection: 20 μ L
 Detection: UV 251 nm
 Sample: Mixed standards (0.6 μ g/mL)
 Peaks:
 1. 4-Biphenylacetoneitrile
 2. 4-Acetylbiphenyl
 3. 4-Biphenylacetic acid
 4. Biphenyl

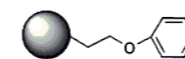


Ordering Information

Product Name	Particle Size (μ m)	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

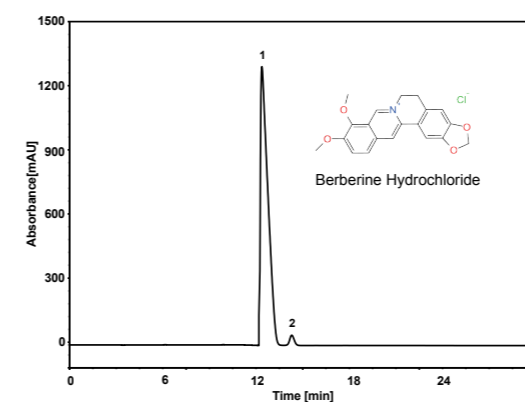
- Suitable selectivity for aromatic and heterocyclic compounds based on hydrophobic and π - π interactions
- Selectivity complementary to ChromCore Phenyl
- Low column bleed, compatible with MS applications
- Good column-to-column consistency

Specifications

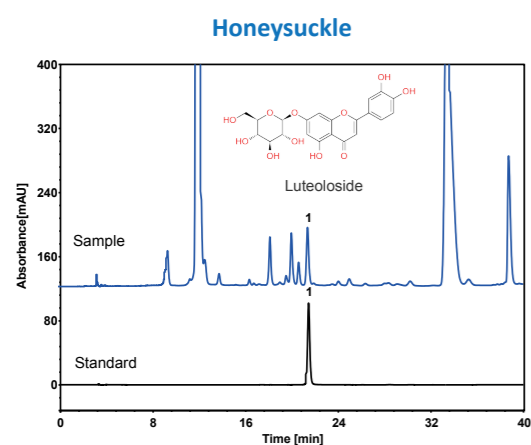
Product Name	ChromCore Phenyl-Ether
Functional Group	Ethoxyphenyl
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	5 μ m
Pore Size	120 Å
Surface Area	300 m ² /g
Carbon Load	12%
End-capped	Yes
Pressure Limit	5000 psi for 5 μ m
Temperature Limit	60 °C
pH Range	2-9
Aqueous Compatibility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

Applications

Berberine Hydrochloride



Column: ChromCore Phenyl-Ether, 5 μ m
 Dimension: 4.6 \times 250 mm
 Mobile Phase: 25/75 v/v MeCN/10 mM ammonium phosphate buffer, pH2.8
 Flow Rate: 1.0 mL/min
 Temperature: 30 °C
 Injection: 10 μ L
 Detection: UV 228 nm
 Peaks:
 1. Berberine
 2. Isomer of berberine



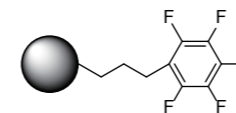
Column: ChromCore Phenyl-Ether, 5 μ m
 Dimension: 4.6 \times 250 mm
 Mobile Phase: A) 0.5% acetic acid in H₂O
 B) MeCN
 Gradient: t(min) %A %B
 0 90 10
 15 80 20
 30 80 20
 40 70 30
 Flow Rate: 1.0 mL/min
 Temperature: 25 °C
 Injection: 10 μ L
 Detection: UV 350 nm
 Peak: 1. Luteoloside

Ordering Information

Product Name	Particle Size (μ m)	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

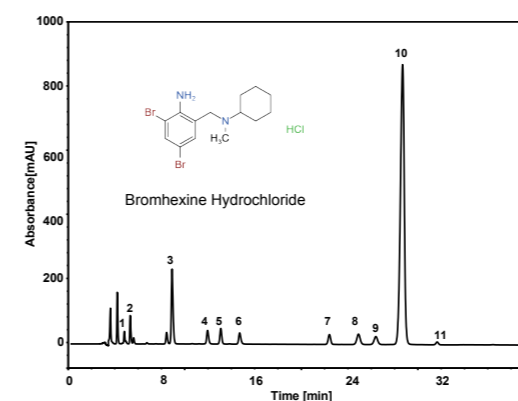
- Good selectivity for polar aromatic and heterocyclic compounds based on shape, hydrophobic, π - π interaction, dipole-dipole interaction and hydrogen bond interaction
- Complementary selectivity to other phenyl stationary phases
- Low column bleed, compatible with MS applications
- Good column-to-column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

Specifications

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

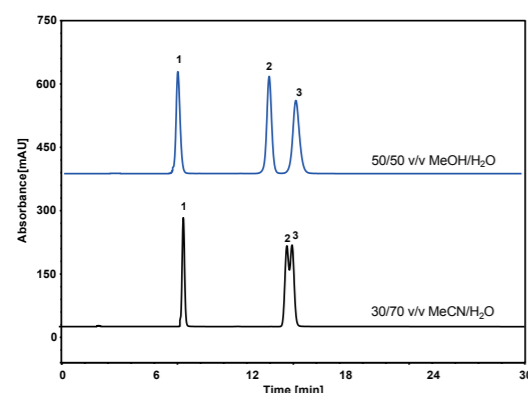
Applications

Bromhexine Hydrochloride



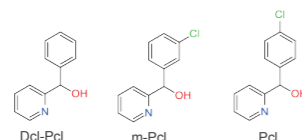
Column: ChromCore PFP, 5 μ m
 Dimension: 4.6 \times 250 mm
 Mobile Phase: A) MeCN
 B) 0.5% acetic acid in H₂O, pH5.0 adjusted by triethylamine
 Gradient: t(min) %A %B
 0 35 65
 5 35 65
 35 55 45
 40 55 45
 40.1 35 65
 50 35 65
 Flow Rate: 1.0 mL/min
 Temperature: 40 °C
 Injection: 10 μ L
 Detection: UV 248 nm
 Peaks: 1-9. Impurities
 10. Bromhexine
 11. Impurity

Pharmaceutical Intermediate-PCL

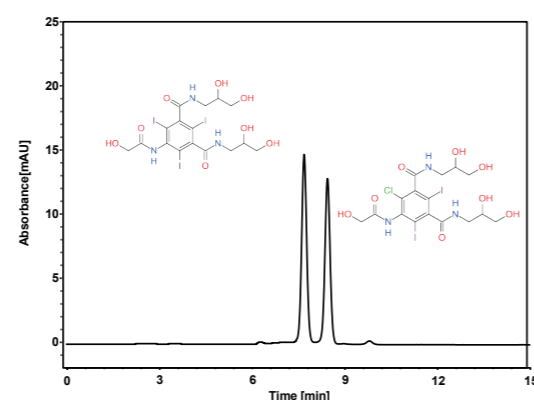


Column: ChromCore PFP, 5 μ m
 Dimension: 4.6 \times 250 mm
 Mobile Phase: 50/50 v/v MeOH/H₂O
 Blue: 50/50 v/v MeOH/H₂O
 Black: 30/70 v/v MeCN/H₂O
 Flow Rate: 1.0 mL/min
 Temperature: 35 $^{\circ}$ C
 Injection: 10 μ L
 Detection: UV 220 nm
 Peaks:

1. Dcl-Pcl
 2. m-Pcl
 3. Pcl

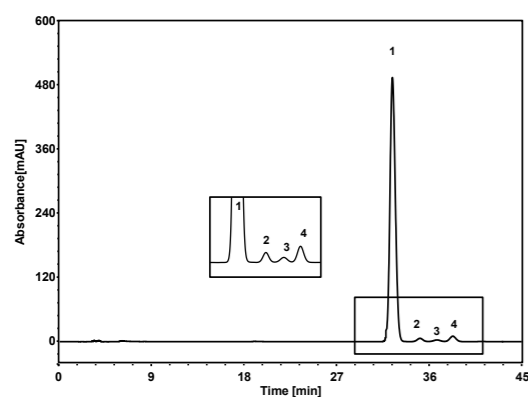


Ioversols



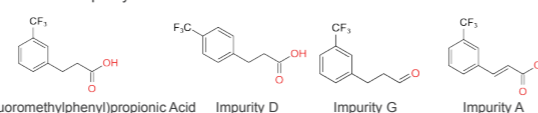
Column: ChromCore PFP, 5 μ m
 Dimension: 4.6 \times 250 mm
 Mobile Phase: 3/97 v/v MeOH/0.05% phosphoric acid in H₂O
 Flow Rate: 1.0 mL/min
 Temperature: 25 $^{\circ}$ C
 Injection: 10 μ L
 Detection: UV 240 nm
 Sample: Mixture of Iodofluorohydrins

3-(3-Trifluoromethylphenyl)propionic Acid



Column: ChromCore PFP, 5 μ m
 Dimension: 4.6 \times 250 mm
 Mobile Phase: 50/50 v/v MeOH/0.1% phosphoric acid in H₂O
 Flow Rate: 1.0 mL/min
 Temperature: 40 $^{\circ}$ C
 Injection: 10 μ L
 Detection: UV 210 nm
 Peaks:

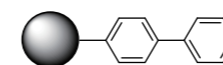
1. 3-(3-Trifluoromethylphenyl)propionic Acid
 2. Impurity D
 3. Impurity G
 4. Impurity A



Ordering Information

Product Name	Particle Size (μ m)	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

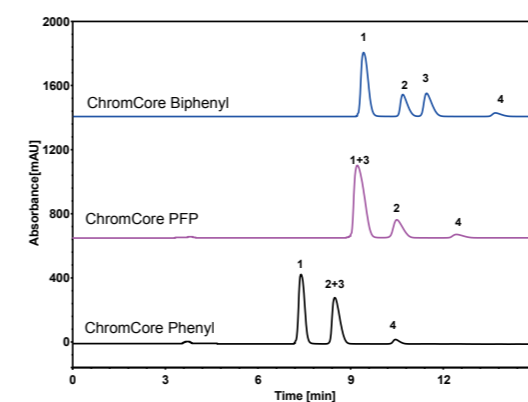
- Unique selectivity for aromatic and heterocyclic compounds based on hydrophobic and π - π interactions
- Selectivity complementary to other aromatic stationary phases
- Low column bleed, compatible with MS applications
- Good column-to-column consistency

Specifications

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

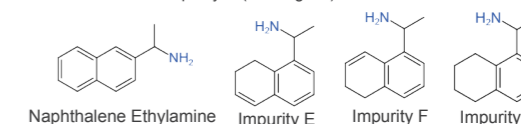
Applications

Naphthalene Ethylamine (Selectivity Comparison)

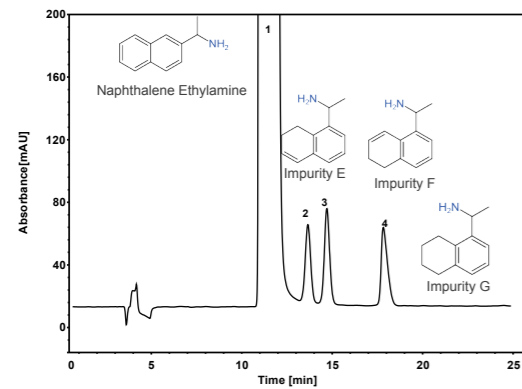


Columns: ChromCore Biphenyl, 5 μ m
 ChromCore PFP, 5 μ m
 ChromCore Phenyl, 5 μ m
 Dimension: 4.6 \times 250 mm
 Mobile Phase: 50/50 v/v MeOH/30 mM ammonium acetate buffer, pH5.8
 Flow Rate: 1.0 mL/min
 Temperature: 40 $^{\circ}$ C
 Injection: 10 μ L
 Detection: UV 223 nm
 Peaks:

1. Naphthalene Ethylamine (0.25 mg/mL)
 2. Impurity E (0.1 mg/mL)
 3. Impurity F (0.1 mg/mL)
 4. Impurity G (0.01 mg/mL)



Naphthalene Ethylamine



Column: ChromCore Biphenyl, 5 μ m
 Dimension: 4.6 \times 250 mm
 Mobile Phase: 45/55 v/v MeOH/30 mM ammonium acetate buffer, pH5.8
 Flow Rate: 1.0 mL/min
 Temperature: 40 $^{\circ}$ C
 Injection: 10 μ L
 Detection: UV 223 nm
 Peaks:
 1. Naphthalene Ethylamine (2 mg/mL)
 2. Impurity E (20 μ g/mL)
 3. Impurity F (20 μ g/mL)
 4. Impurity G (20 μ g/mL)

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.

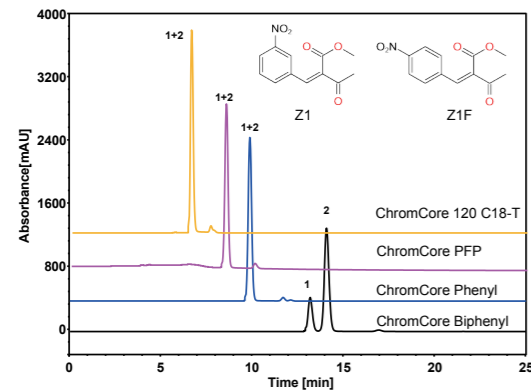
Main Features

- 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

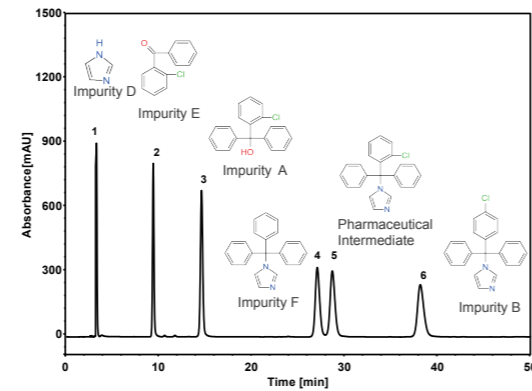
Product Name	ChromCore 300 C18	ChromCore 300 C8	ChromCore 300 C4-T
Functional Group	Octadecyl	Octyl	Butyl
Substrate	Monodispersed, porous, spherical silica particles		
Particle Size	3 & 5 μ m		
Pore Size	300 Å		
Surface Area	100 m ² /g		
Carbon Load	9%	5%	3%
End-capped	Yes		
Pressure Limit	5000 psi for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

Pharmaceutical Intermediate(Selectivity Comparison)



Columns: ChromCore 120 C18-T, 5 μ m
 ChromCore PFP, 5 μ m
 ChromCore Phenyl, 5 μ m
 ChromCore Biphenyl, 5 μ m
 Dimension: 4.6 \times 250 mm
 Mobile Phase: 65/35 v/v MeOH/H₂O
 Flow Rate: 1.0 mL/min
 Temperature: 35 $^{\circ}$ C
 Injection: 5 μ L
 Detection: UV 265 nm
 Peaks: 1. Z1f
 2. Z1

Pharmaceutical Intermediate



Column: ChromCore Biphenyl, 5 μ m
 Dimension: 4.6 \times 250 mm
 Mobile Phase: 75/25 v/v MeOH/25 mM ammonium phosphate solution, pH6.5
 Flow Rate: 1.0 mL/min
 Temperature: 40 $^{\circ}$ C
 Injection: 10 μ L
 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

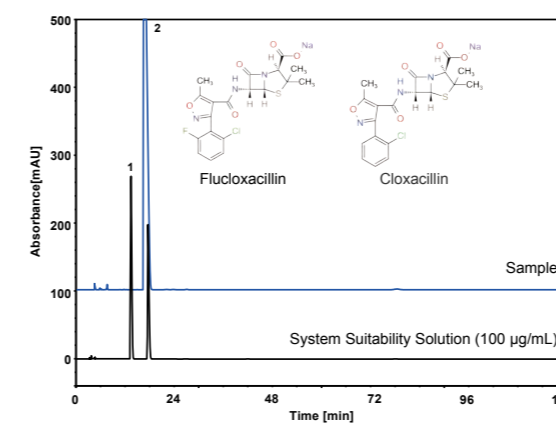
Applications

>> ChromCore 300 C18

Ordering Information

Product Name	Particle Size (μ m)	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
	3	50	A211-050012-04605S	A211-050012-03005S	A211-050012-02105S
		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

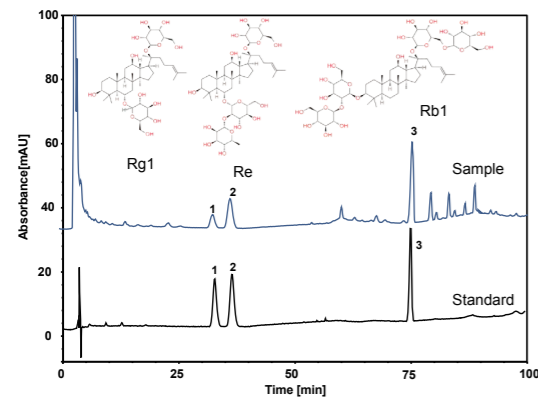
Flucloxacillin Sodium



Column: ChromCore 300 C18, 5 μ m
 Dimension: 4.6 \times 250 mm
 Mobile Phase: 25/75 v/v MeCN/20 mM phosphate buffer, pH5.0
 Flow Rate: 1.0 mL/min
 Temperature: 25 $^{\circ}$ C
 Injection: 20 μ L
 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



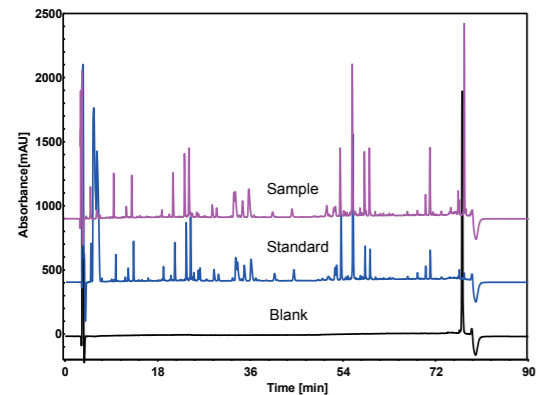
Column: ChromCore 300 C18, 5 μ m
 Dimension: 4.6 \times 250 mm
 Mobile Phase: A) MeCN
 B) H₂O
 Gradient:

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 °C
 Injection: 10 μ L
 Detection: UV 203 nm
 Peaks: 1. Ginsenosides Rg1
 2. Ginsenosides Re
 3. Ginsenosides Rb1

>> ChromCore 300 C8

Peptide Mapping of rhGH

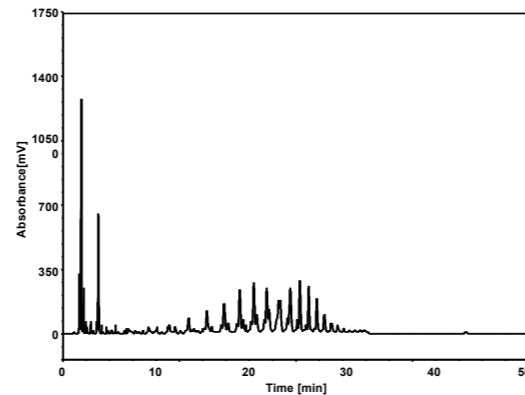


Column: ChromCore 300 C8, 5 μ m
 Dimension: 4.6 \times 250 mm
 Mobile Phase: A) 0.1% TFA in H₂O
 B) 0.1% TFA in 90% MeCN/H₂O
 Gradient:

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 °C
 Injection: 100 μ L
 Detection: UV 214 nm

PEG Conjugates



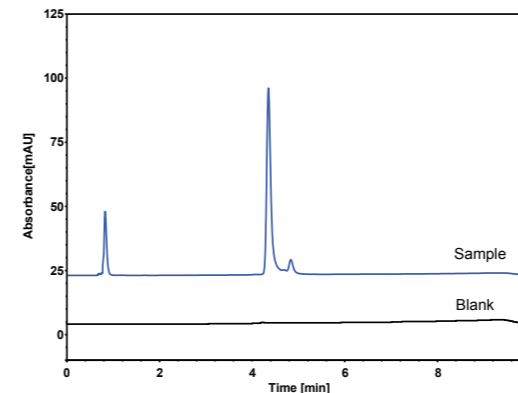
Column: ChromCore 300 C8, 3 μ m
 Dimension: 2.1 \times 100 mm
 Mobile Phase: A) 0.1% acetic acid in H₂O
 B) MeCN
 Gradient:

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 °C
 Injection: 5 μ L
 Detection: ELSD

>> ChromCore 300 C4-T

BSA

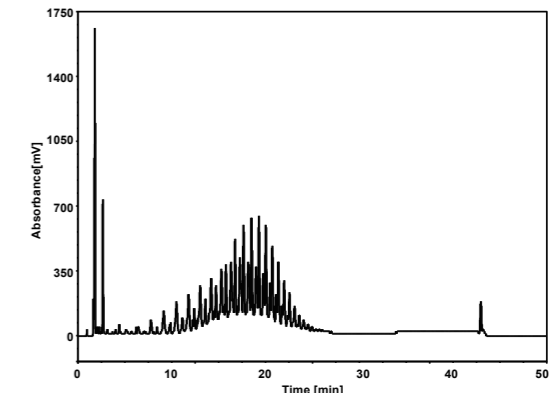


Column: ChromCore 300 C4-T, 5 μ m
 Dimension: 4.6 \times 50 mm
 Mobile Phase: A) 0.1% TFA in H₂O
 B) 0.1% TFA in MeCN
 Gradient:

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

 Flow Rate: 1.0 mL/min
 Temperature: 70 °C
 Injection: 10 μ L
 Detection: UV 280 nm

PEG Conjugates



Column: ChromCore 300 C4-T, 3 μ m
 Dimension: 2.1 \times 100 mm
 Mobile Phase: A) 0.1% acetic acid in H₂O
 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 °C
 Injection: 5 μ L
 Detection: ELSD

Ordering Information

Product Name	Particle Size (μ m)	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
	3	50	A001-050030-04605S	A001-050030-03005S	A001-050030-02105S
		150	A001-030030-04615S	A001-030030-03015S	A001-030030-02115S
		100	A001-030030-04610S	A001-030030-03010S	A001-030030-02110S
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
	3	50	A007-050030-04605S	A007-050030-03005S	A007-050030-02105S
		150	A007-030030-04615S	A007-030030-03015S	A007-030030-02115S
		100	A007-030030-04610S	A007-030030-03010S	A007-030030-02110S
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
	3	50	A226-050030-04605S	A226-050030-03005S	A226-050030-02105S
		150	A226-030030-04615S	A226-030030-03015S	A226-030030-02115S
		100	A226-030030-04610S	A226-030030-03010S	A226-030030-02110S

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.

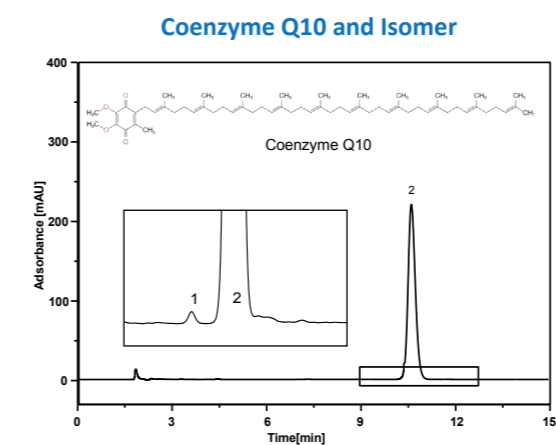
Main Features

- 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 \AA
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 $^{\circ}\text{C}$
pH Range	3-7
Aqueous Compatibility	100% aqueous

Applications

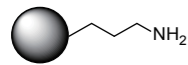


Column: ChromCore Silica, 5 μm
 Dimension: 4.6 \times 250 mm
 Mobile Phase: 97/3 v/v hexane/ ethyl acetate
 Flow Rate: 2.0 mL/min
 Temperature: 30 $^{\circ}\text{C}$
 Injection: 20 μL
 Detection: UV 275 nm
 Peaks:
 1. Coenzyme Q10 Isomer
 2. Coenzyme Q10

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™ NH₂ Columns



ChromCore NH₂ 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.

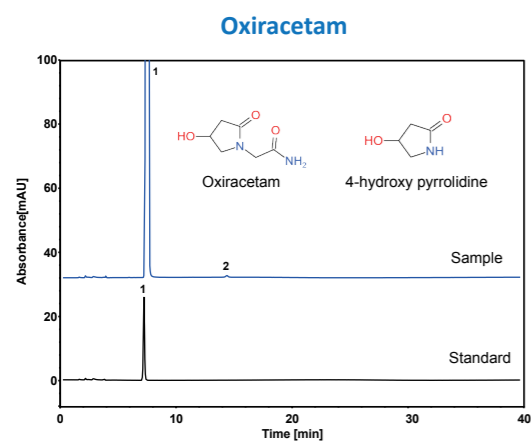
Main Features

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

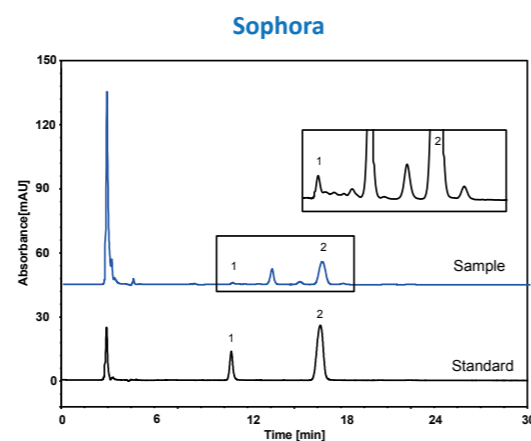
Specifications

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

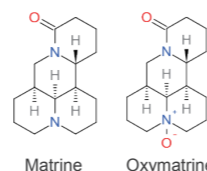
Applications



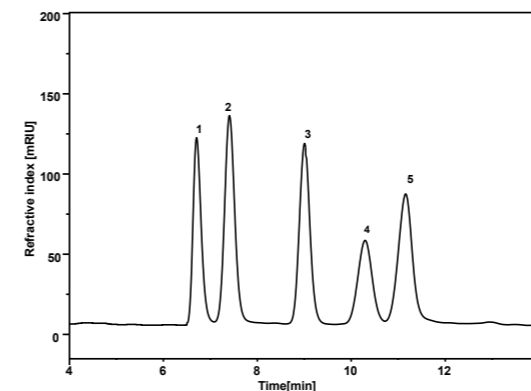
Column: ChromCore NH₂, 5 μm
 Dimension: 4.6 × 250 mm
 Mobile Phase: 74/26 v/v MeCN/ 30 mM phosphate buffer, pH3.5
 Flow Rate: 1.0 mL/min
 Temperature: 30 °C
 Injection: 10 μL
 Detection: UV 210 nm
 Peaks: 1. Oxiracetam
 2. 4-hydroxy Pyrrolidine



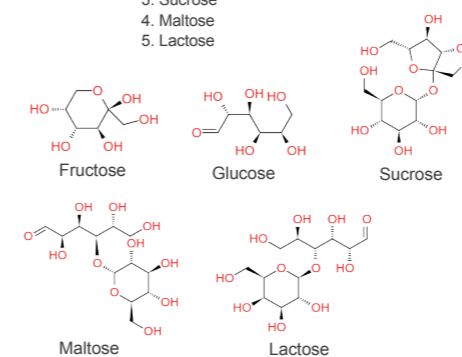
Column: ChromCore NH₂, 5 μm
 Dimension: 4.6 × 250 mm
 Mobile Phase: A) MeCN
 B) EtOH
 C) 3%(v/v)H₃PO₄ in H₂O
 Gradient: A/B/C v/v/v 80/10/10
 Flow Rate: 1.0 mL/min
 Temperature: 30 °C
 Injection: 5 μL
 Detection: UV 220 nm
 Peaks: 1. Matrine
 2. Oxymatrine



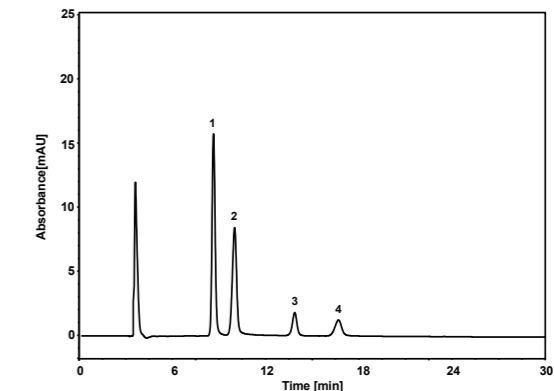
Sugars



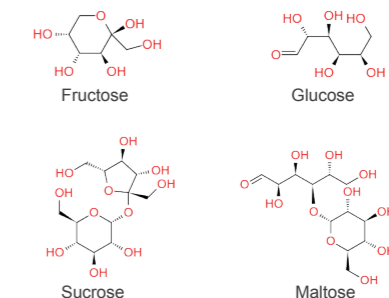
Column: ChromCore NH₂, 5 μm
 Dimension: 4.6 × 250 mm
 Mobile Phase: 70/30 v/v MeCN/H₂O
 Flow Rate: 1.0 mL/min
 Temperature: 40 °C
 Injection: 20 μL
 Detection: RID
 Peaks: 1. Fructose
 2. Glucose
 3. Sucrose
 4. Maltose
 5. Lactose



Honey



Column: ChromCore NH₂, 5 μm
 Dimension: 4.6 × 250 mm
 Mobile Phase: 75/25 v/v MeCN/H₂O
 Flow Rate: 1.0 mL/min
 Temperature: 35 °C
 Injection: 15 μL
 Detection: RID
 Peaks: 1. Fructose
 2. Glucose
 3. Sucrose
 4. Maltose

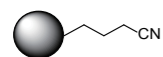


Ordering Information

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

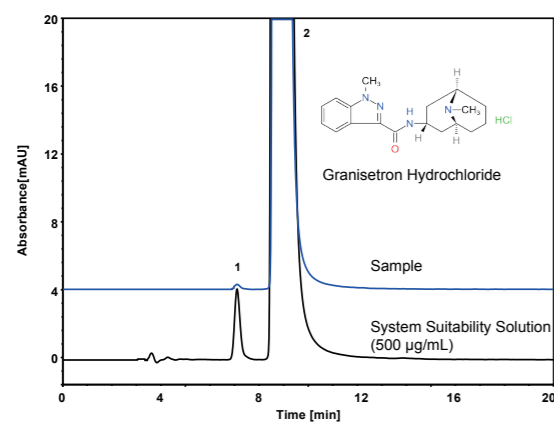
- Monodispersed, high-purity, porous, spherical silica particles for high column efficiency
- Suitable for separating hydrophobic, unsaturated and polar compounds
- Selectivity complementary to Silica and NH₂ phase in normal phase/HILIC mode

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 °C
 Injection: 20 μL
 Detection: UV 302 nm
 Peaks: 1. Photodegradation Product
 2. Granisetron

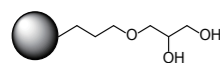
	R.T. (min)	Theoretical Plate (USP)	Trailing Factor (USP)	Resolution (USP)	Signal To Noise (S/N)
Photodegradation Product	7.100	4734	1.30	/	/
Granisetron	8.700	3126	1.85	3.10	21.1

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.

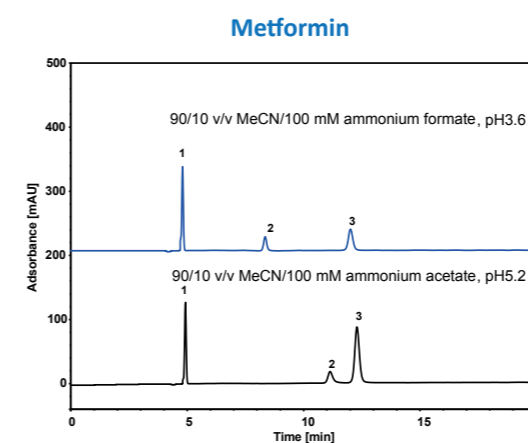
Main Features

- 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

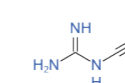
Specifications

Product Name	ChromCore HILIC-Diol
Functional Group	Diol
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 & 5 μm
Pore Size	120 \AA
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 $^{\circ}\text{C}$
pH Range	2-8
Aqueous Compatibility	100% aqueous

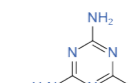
Applications



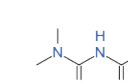
Column: ChromCore HILIC-Diol, 5 μm
 Dimension: 4.6 \times 250 mm
 Mobile Phase: See chromatogram
 Flow Rate: 1.0 mL/min
 Temperature: 30 $^{\circ}\text{C}$
 Injection: 5 μL
 Detection: UV 218 nm
 Peaks:
 1. Dicyandiamide
 2. Metformin
 3. Melamine



Dicyandiamide



Metformin



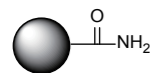
Melamine

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

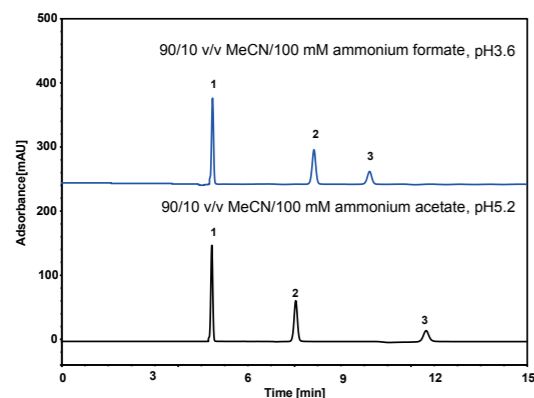
- Monodispersed, high-purity, porous silica particles for high column efficiency
- Unique selectivity for polar compounds
- Suited for small polar compounds and oligosaccharides analysis
- Good column-to-column consistency

Specifications

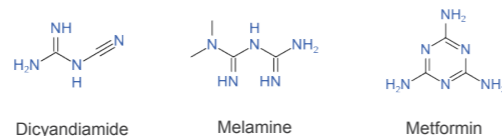
Product Name	ChromCore HILIC-Amide
Functional Group	Amide
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 & 5 μm
Pore Size	120 Å
Surface Area	300 m ² /g
Carbon Load	7%
End-capped	No
Pressure Limit	5000 psi for 5 μm, 6000 psi for 3 μm
Temperature Limit	60 °C
pH Range	2-8
Aqueous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

Applications

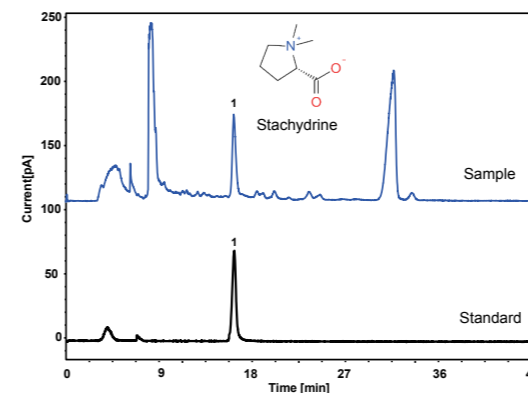
Metformin



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

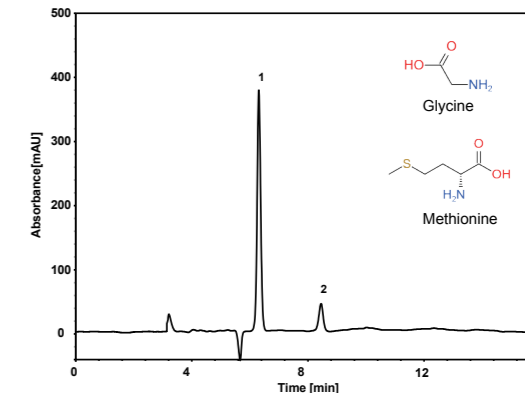


Leonuri Herba



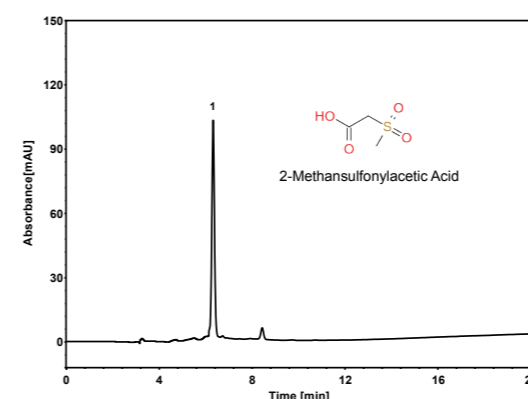
Column: ChromCore HILIC-Amide, 5 μm
 Dimension: 4.6×250 mm
 Mobile Phase: 80/20 v/v MeCN/0.2% acetic acid in H₂O
 Flow Rate: 0.5 mL/min
 Temperature: 20 °C
 Injection: 10 μL
 Detection: CAD
 Peak: 1. Stachydrine

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 H₂O, pH5.5
 Flow Rate: 1.0 mL/min
 Temperature: 35 °C
 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 H₂O
 Gradient:

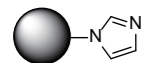
t (min)	%A	%B
0	10	90
15	90	10
20	90	10
20.1	10	90
40	10	90

Flow Rate: 1.0 mL/min
 Temperature: 30 °C
 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

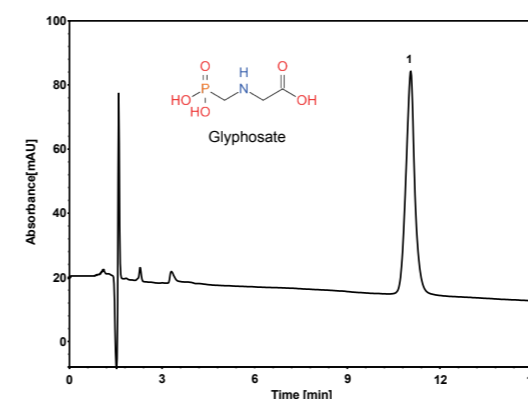
- Monodispersed, high-purity, porous silica particles for high column efficiency
- Unique selectivity based on HILIC and ion exchange mixed mode
- Suited for separating polar and anionic analytes
- Good column-to-column consistency

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



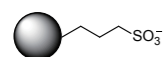
Column: ChromCore HILIC-Imidazole, 5 μm
 Dimension: 4.6 \times 250 mm
 Mobile Phase: 3/97 v/v MeOH/2 mM potassium dihydrogen phosphate in H_2O , pH1.9
 Flow Rate: 1.5 mL/min
 Temperature: 30 °C
 Injection: 10 μL
 Detection: UV 195 nm
 Peak: 1. Glyphosate (2 mg/mL)

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.

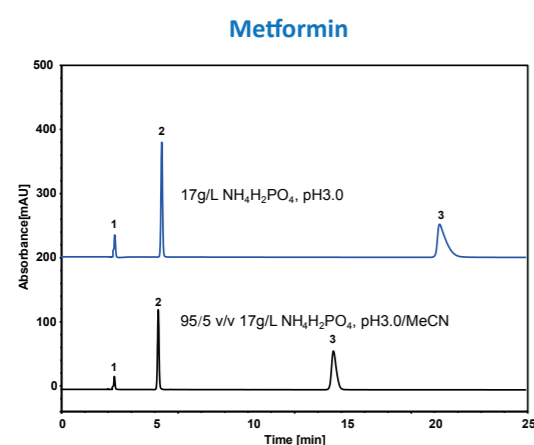
Main Features

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

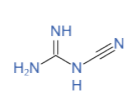
Specifications

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 °C	
pH Range	2-8	

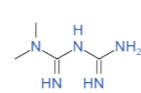
Applications



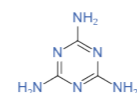
Column: ChromCore 300 SCX, 5 μm
 Dimension: 4.6 × 250 mm
 Mobile Phase:
 Blue: 17 g/L ammonium dihydrogen phosphate in H₂O, pH3.0
 Black: 95/5 v/v 17 g/L ammonium dihydrogen phosphate in H₂O, pH3.0/MeCN
 Flow Rate: 1.0 mL/min
 Temperature: 30 °C
 Injection: 5 μL
 Detection: UV 218 nm
 Peaks:
 1. Dicyandiamide
 2. Melamine
 3. Metformin



Dicyandiamide

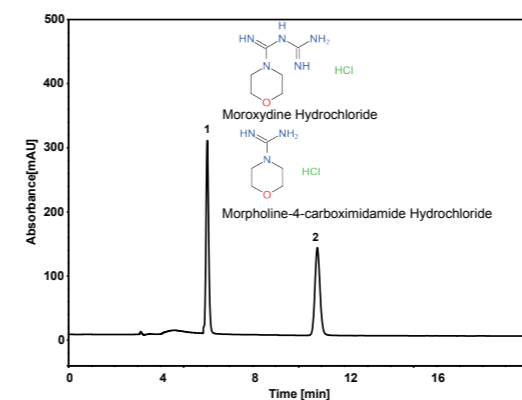


Melamine



Metformin

Moroxydine Hydrochloride



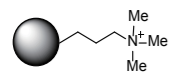
Column: ChromCore 300 SCX, 5 μm
 Dimension: 4.6 × 250 mm
 Mobile Phase: 10/90 v/v MeCN/150 mM ammonium dihydrogen phosphate in H₂O, pH2.5
 Flow Rate: 1.0 mL/min
 Temperature: 30 °C
 Injection: 2 μL
 Detection: UV 198 nm
 Peaks:
 1. Morpholine-4-carboximidamide Hydrochloride
 2. Moroxydine Hydrochloride

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.

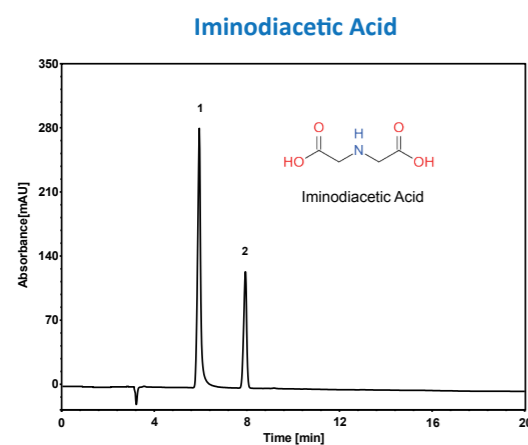
Main Features

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

Specifications

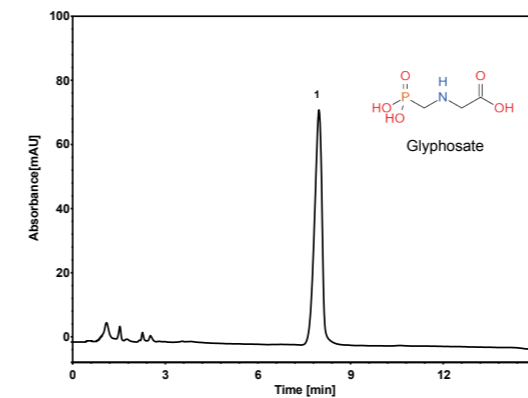
Product Name	ChromCore SAX
Functional Group	Quaternary Ammonium
Substrate	Monodispersed, porous, spherical silica particles
Particle Size	3 & 5 μm
Pore Size	120 \AA
Surface Area	300 m^2/g
End-capped	No
Pressure Limit	5000 psi for 5 μm , 6000 psi for 3 μm
Temperature Limit	60 $^{\circ}\text{C}$
pH Range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

Applications



Column: ChromCore SAX, 5 μm
 Dimension: 4.6 \times 250 mm
 Mobile Phase: 30 mM potassium dihydrogen phosphate in H_2O , pH6.0
 Flow Rate: 1.0 mL/min
 Temperature: 27 $^{\circ}\text{C}$
 Injection: 10 μL
 Detection: UV 195 nm
 Peaks: 1. Iminodiacetic acid
 2. Cl⁻

Glyphosate



Column: ChromCore SAX, 5 μm
 Dimension: 4.6 \times 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 $^{\circ}\text{C}$
 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

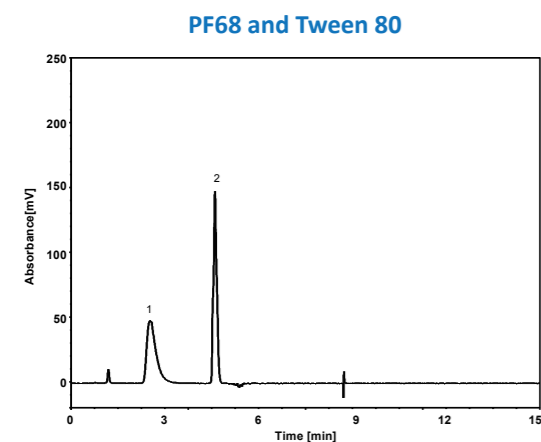
For more information, please visit <http://www.nanochrom.com>

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.



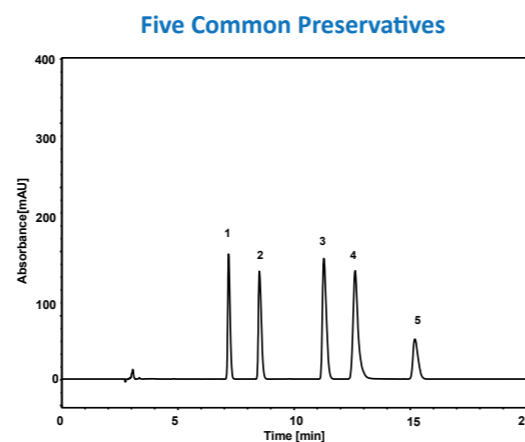
Column: ChromCore SAA, 5 μm
 Dimension: 4.6 × 150 mm
 Mobile Phase: A) 0.1% acetic acid in H₂O
 B) 0.1% acetic acid in isopropanol
 Gradient:

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

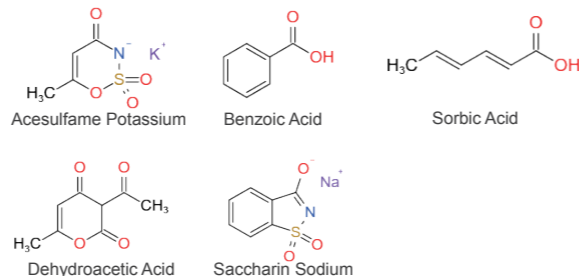
Flow Rate: 1.2 mL/min
 Temperature: 25 °C
 Injection: 5 μL
 Detection: ELSD (Evap: 65 °C, Neb: 55 °C, Gas: 1.6 SLM)
 Peaks: 1. PF68
 2. Tween 80

ChromCore™ C18-P

Designed for preservatives analysis in foods and beverages.



Column: ChromCore C18-P, 5 μm
 Dimension: 4.6 × 250 mm
 Mobile Phase: 95/5 v/v 20 mM ammonium acetate in H₂O, pH6.9/MeOH
 Flow Rate: 1.0 mL/min
 Temperature: 30 °C
 Injection: 5 μL
 Detection: UV 230 nm
 Diluter: H₂O
 Peaks: 1. Acesulfame Potassium
 2. Benzoic Acid
 3. Sorbic Acid
 4. Dehydroacetic Acid
 5. Saccharin Sodium



Ordering Information

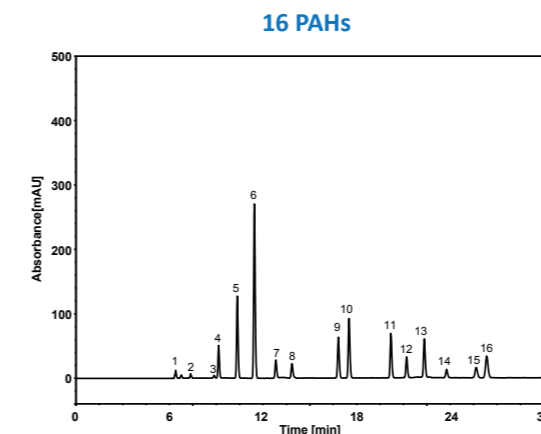
Product Name	Particle Size (μm)	Length (mm)	ID (mm)
			4.6
ChromCore SAA	5	250	S014-050018-04625S
		150	S014-050018-04615S

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.



Column: ChromCore PAH, 5 μm
 Dimension: 4.6 × 250 mm
 Mobile Phase: A) H₂O
 B) MeCN
 Gradient:

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

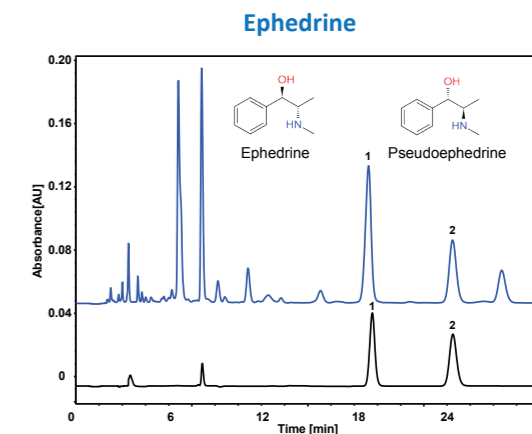
Flow Rate: 1.5 mL/min
 Temperature: 25 °C
 Injection: 5 μL
 Detection: UV 254 nm
 Peaks: 1. Naphthalene 2. Acenaphthylene 3. Acenaphthene
 4. Fluorene 5. Phenanthrene 6. Anthracene
 7. Fluoranthene 8. Pyrene 9. Benzo(a)anthracene
 10. Chrysene 11. Benzo(b)fluoranthene
 12. Benzo(k)fluoranthene 13. Benzo(a)pyrene
 14. Dibenzo(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
		150	A118-030018-04615S

ChromCore™ Ephedra

Designed for determination of ephedra in natural plants.



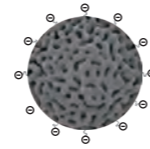
Column: ChromCore Ephedra, 5 μm
 Dimension: 4.6 × 250 mm
 Mobile Phase: 1.5/98.5 v/v MeOH/0.092% phosphoric acid in H₂O containing 0.04% triethylamine and 0.02% dibutylamine
 Flow Rate: 1.0 mL/min
 Temperature: 30 °C
 Injection: 10 μL
 Detection: UV 210 nm
 Samples: Blue: System suitability solution
 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 Ca²⁺ forms for separating sugars, sugar alcohols, organic acids or their mixture.



Main Features

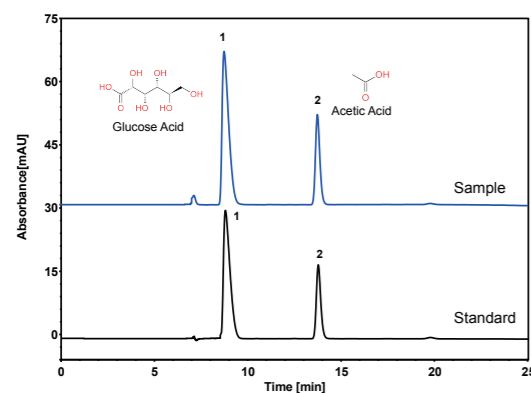
- Excellent chromatography performance for symmetrical peaks
- Good mechanical strength for longer column life
- Higher cross-linking for higher flow rate and better resolution

Specifications

Product Name	Sugar-10H	Sugar-10Ca	Sugar-10Na
Functional Group	-SO ₃ H	-(SO ₃) ₂ Ca	-SO ₃ Na
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

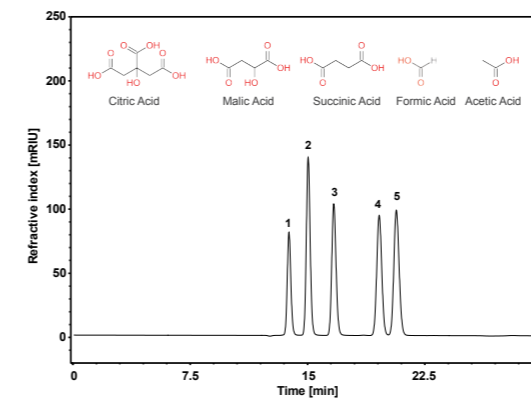
Multiple Electrolytes Injection



Column: ChromCore Sugar-10H, 6 μm
 Dimension: 7.8 × 300 mm
 Mobile Phase: 25 mM H₂SO₄ in H₂O
 Flow Rate: 0.6 mL/min
 Temperature: 60 °C
 Injection: 20 μL
 Detection: UV 210 nm
 Sample: Multiple Electrolytes Injection
 Peaks: 1. Glucose Acid, 2. Acetic Acid

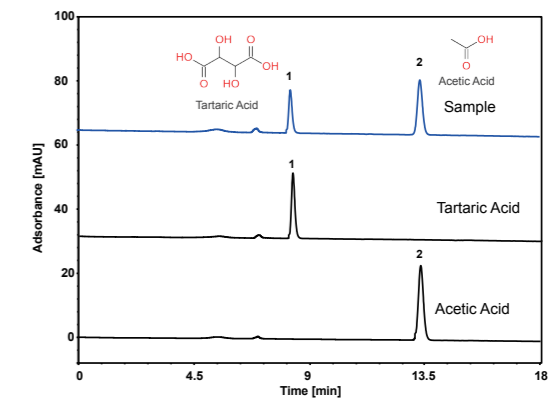
	R.T. (min)	Theoretical Plate	Tailing Factor	Resolution	Peak Area	Peak Height
Glucose Acid	8.799	2811	1.90	/	886504	36446
Acetic Acid	13.767	16158	1.22	8.88	345759	21059

Organic Acids



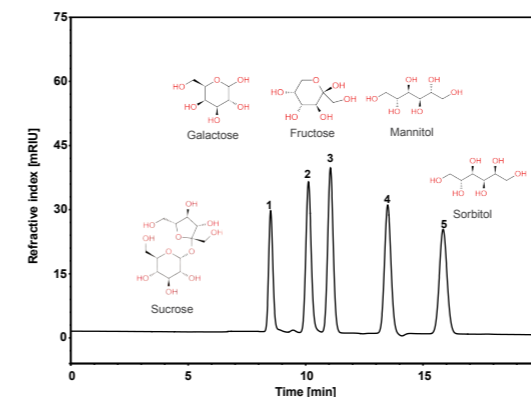
Column: ChromCore Sugar-10H, 6 μm
 Dimension: 7.8 × 300 mm
 Mobile Phase: 9 mM H₂SO₄ in H₂O
 Flow Rate: 0.5 mL/min
 Temperature: 65 °C
 Injection: 5 μL
 Detection: RID
 Peaks: 1. Citric Acid, 2. Malic Acid, 3. Succinic Acid, 4. Formic Acid, 5. Acetic Acid

Tartaric Acid and Acetic Acid



Column: ChromCore Sugar-10H, 6 μm
 Dimension: 7.8 × 300 mm
 Mobile Phase: 5 mM H₂SO₄ in H₂O
 Flow Rate: 0.6 mL/min
 Temperature: 80 °C
 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: H₂O
 Flow Rate: 0.5 mL/min
 Temperature: 80 °C
 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

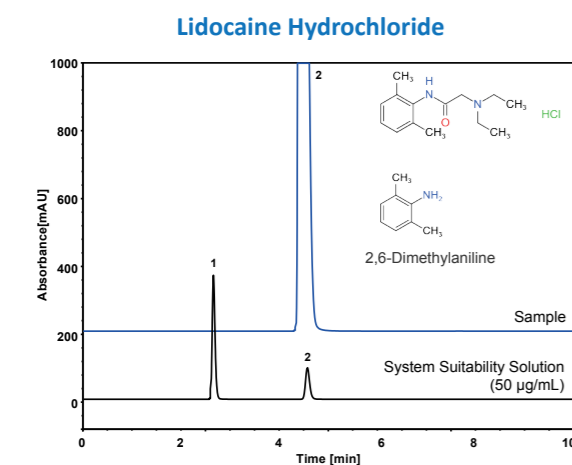
- Advanced monodispersed particle technology for high column efficiency and mechanical strength
- Excellent chromatography performance for symmetrical peaks
- Low column bleed and good MS compatibility
- Good column-to-column consistency

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 °C			
pH Range	2-10			

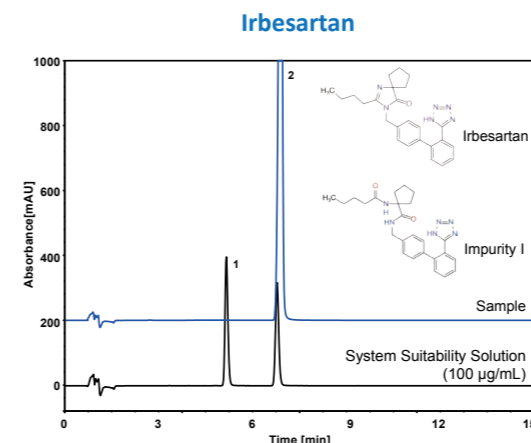
Applications

>> ChromCore 120 C18



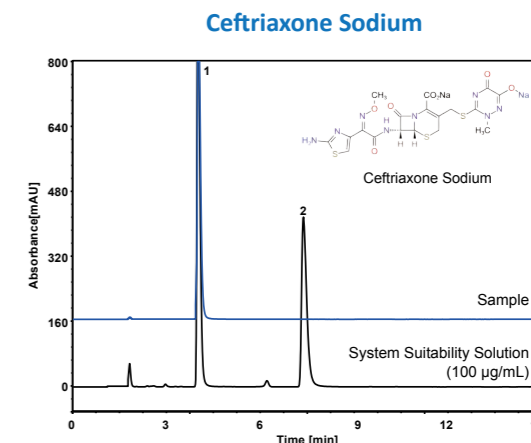
Column: ChromCore 120 C18, 1.8 µm
 Dimension: 2.1 × 100 mm
 Mobile Phase: 50/50 v/v MeCN/17.6 mM phosphate buffer, pH8.0
 Flow Rate: 0.25 mL/min
 Temperature: 25 °C
 Injection: 5 µL
 Detection: UV 230 nm
 Peaks: 1. Impurity I (2,6-Dimethylaniline)
 2. Lidocaine

	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



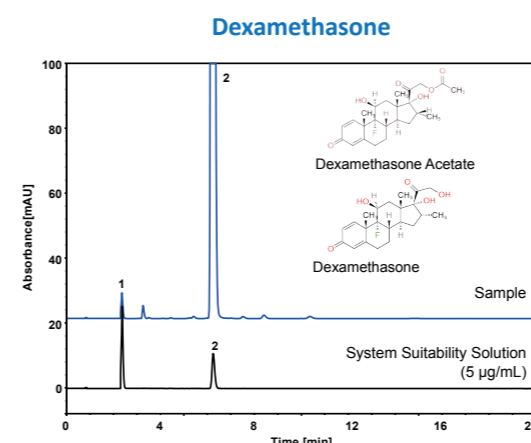
Column: ChromCore 120 C18, 1.8 µm
 Dimension: 2.1 × 100 mm
 Mobile Phase: 38/62 v/v MeCN/ 1% phosphoric acid in H₂O, pH3.2
 Flow Rate: 0.25 mL/min
 Temperature: 25 °C
 Injection: 2 µL
 Detection: UV 220 nm
 Peaks: 1. Impurity I
 2. Irbesartan

	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



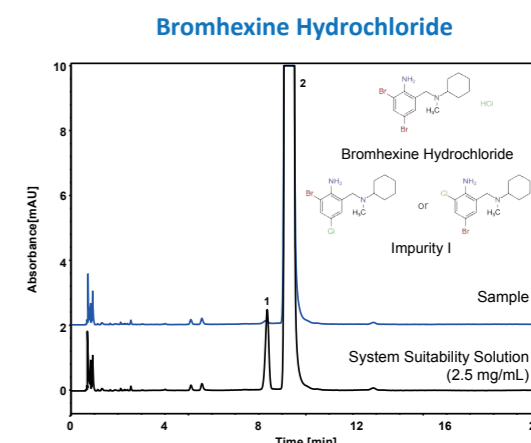
Column: ChromCore 120 C18, 1.8 µm
 Dimension: 2.1 × 100 mm
 Mobile Phase: 27/73 v/v MeCN/0.02 mol/L octylamine solution, pH6.5
 Flow Rate: 0.25 mL/min
 Temperature: 25 °C
 Injection: 20 µL
 Detection: UV 254 nm
 Peaks: 1. Ceftriaxone
 2. Trans-isomer of Ceftriaxone

	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	/



Column: ChromCore 120 C18, 1.8 µm
 Dimension: 2.1 × 100 mm
 Mobile Phase: 40/60 v/v MeCN/H₂O
 Flow Rate: 0.3 mL/min
 Temperature: 25 °C
 Injection: 5 µL
 Detection: UV 240 nm
 Peaks: 1. Dexamethasone
 2. Dexamethasone Acetate

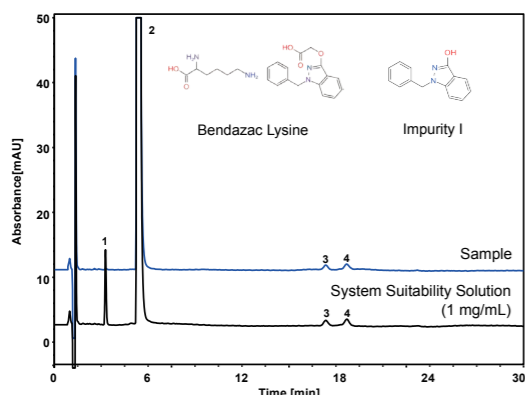
	R.T. (min)	Theoretical Plate (USP)	Tailing Factor (USP)	Resolution (USP)	Signal to Noise (S/N)
Dexamethasone	2.334	7309	1.38	/	/
Dexamethasone Acetate	6.220	14020	1.21	24.34	55.2



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 °C
 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

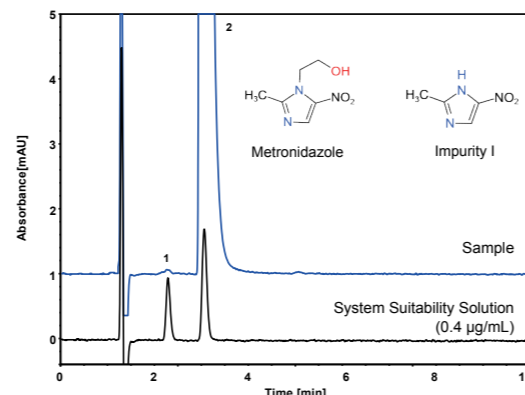
Bendazac Lysine



Column: ChromCore 120 C18, 1.8 μ m
 Dimension: 2.1 \times 100 mm
 Mobile Phase: 47/53 v/v MeCN/100 mM acetic acid solution, pH2.88
 Flow Rate: 0.2 mL/min
 Temperature: 25 $^{\circ}$ C
 Injection: 2 μ L
 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	/

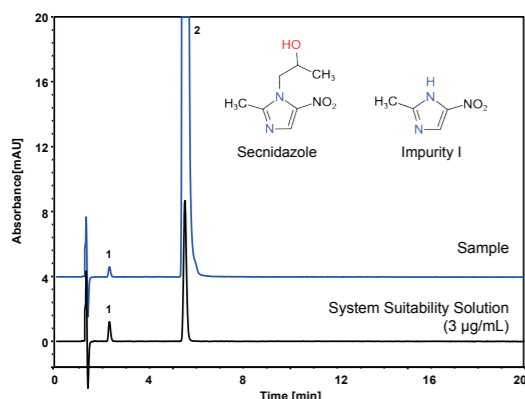
Metronidazole



Column: ChromCore 120 C18, 1.8 μ m
 Dimension: 2.1 \times 100 mm
 Mobile Phase: 20/80 v/v MeOH/H₂O
 Flow Rate: 0.2 mL/min
 Temperature: 40 $^{\circ}$ C
 Injection: 2 μ L
 Detection: UV 315 nm
 Peaks: 1. Impurity 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

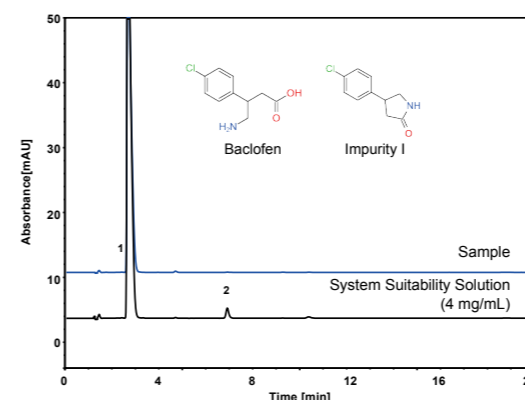


Column: ChromCore 120 C18, 1.8 μ m
 Dimension: 2.1 \times 100 mm
 Mobile Phase: 20/80 v/v MeOH/H₂O
 Flow Rate: 0.2 mL/min
 Temperature: 40 $^{\circ}$ C
 Injection: 2 μ L
 Detection: UV 318 nm
 Peaks: 1. Impurity I
 2. Secnidazole

	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

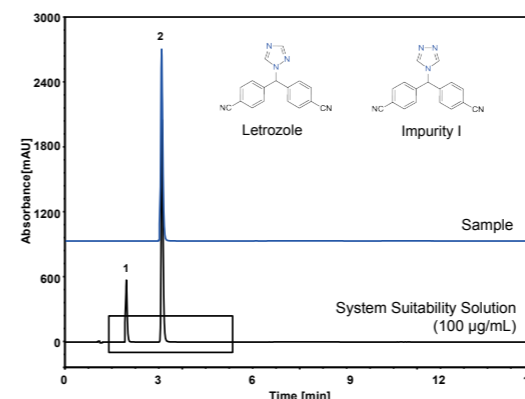
Baclofen



Column: ChromCore AQ C18, 1.8 μ m
 Dimension: 2.1 \times 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 $^{\circ}$ C
 Injection: 2 μ L
 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	/

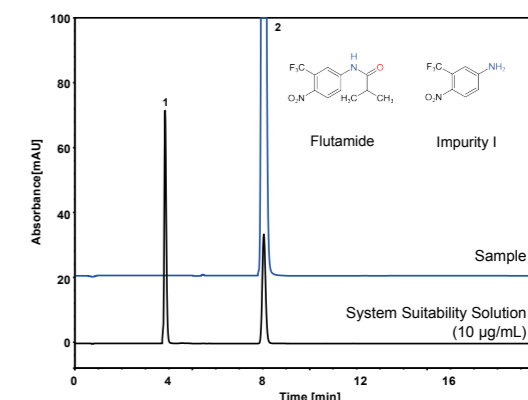
Letrozole



Column: ChromCore AQ C18, 1.8 μ m
 Dimension: 2.1 \times 100 mm
 Mobile Phase: A) H₂O
 B) MeCN
 Gradient: (min) %A %B
 0 60 40
 5 20 80
 5.1 60 40
 15 60 40
 Flow Rate: 0.25 mL/min
 Temperature: 25 $^{\circ}$ C
 Injection: 5 μ L
 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

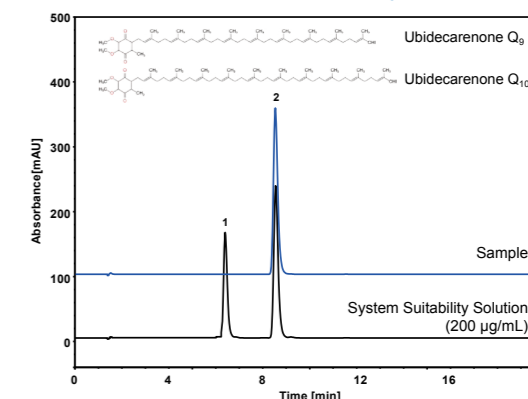
Flutamide



Column: ChromCore AQ C18, 1.8 μ m
 Dimension: 2.1 \times 100 mm
 Mobile Phase: 55/45 v/v H₂O/MeCN
 Flow Rate: 0.208 mL/min
 Temperature: 25 $^{\circ}$ C
 Injection: 5 μ L
 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

Ubidecarenone Q₁₀

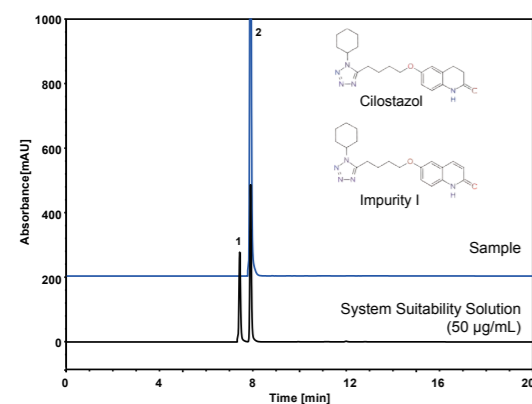


Column: ChromCore AQ C18, 1.8 μ m
 Dimension: 2.1 \times 100 mm
 Mobile Phase: 50/50 v/v MeOH/EtOH
 Flow Rate: 0.2 mL/min
 Temperature: 25 $^{\circ}$ C
 Injection: 2 μ L
 Detection: UV 275 nm
 Peaks: 1. Ubidecarenone Q₉
 2. Ubidecarenone Q₁₀

	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

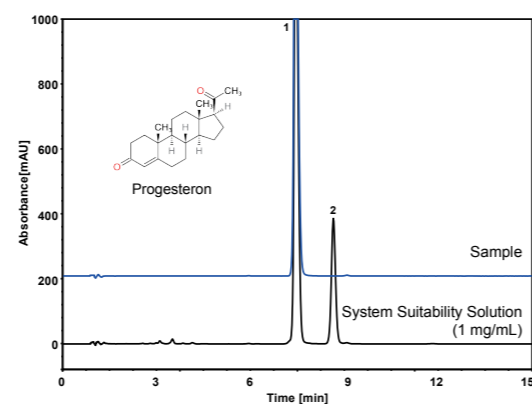
Cilostazol



Column: ChromCore 120 C8, 1.8 µm
 Dimension: 2.1 × 100 mm
 Mobile Phase: A) H₂O
 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 °C
 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/H₂O
 Flow Rate: 0.25 mL/min
 Temperature: 25 °C
 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>

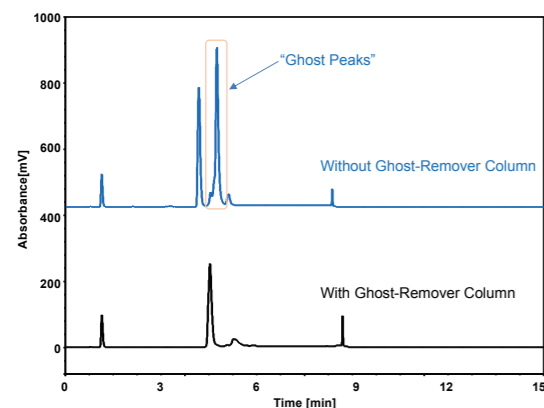
NanoChrom™ Ghost-Remover Columns

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

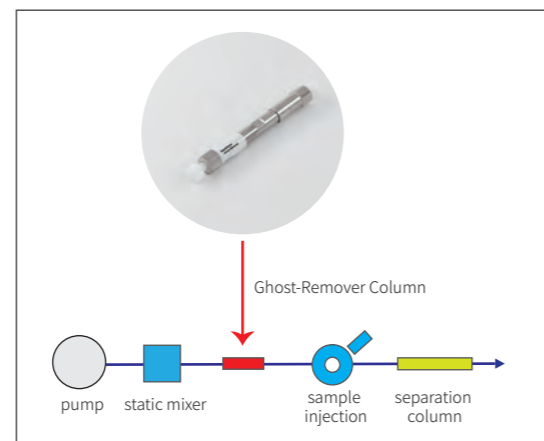
Applications



Column: ChromCore SAA, 5 μm 4.6 × 150 mm
 Mobile Phase: A) 0.1% acetic acid in H₂O
 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 °C
 Injection: 5 μL
 Detection: ELSD (Evap: 65 °C, Neb: 55 °C, Gas: 1.6 SLM)
 Samples: Tween 20



Installation

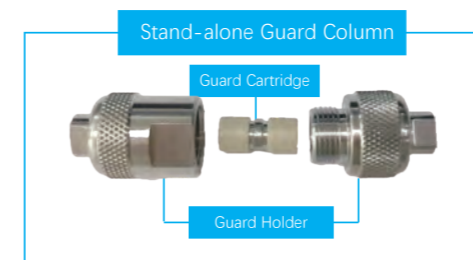
Ordering Information

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



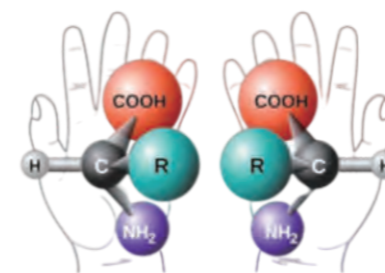
Ordering Information

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	B311-100000-10025S	B311-100000-20025S
		150	B311-100000-10015S	B311-100000-20015S
	5	250	B311-050000-10025S	B311-050000-20025S
		150	B311-050000-10015S	B311-050000-20015S
BioCore SCX	10	250	B411-100000-10025S	B411-100000-20025S
		150	B411-100000-10015S	B411-100000-20015S
	5	250	B411-050000-10025S	B411-050000-20025S
		150	B411-050000-10015S	B411-050000-20015S
BioCore SAX	10	250	B611-100000-10025S	B611-100000-20025S
		150	B611-100000-10015S	B611-100000-20015S
	5	250	B611-050000-10025S	B611-050000-20025S
		150	B611-050000-10015S	B611-050000-20015S
BioCore HIC-Butyl	5	250	B713-050100-10025S	B713-050100-20025S
		150	B713-050100-10015S	B713-050100-20015S

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

Chiral HPLC Columns

UniChiral® HPLC Columns



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

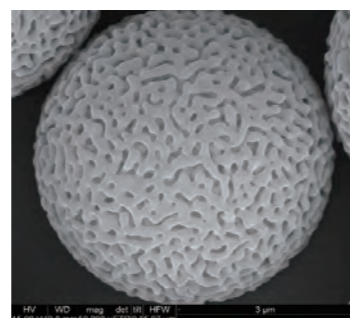
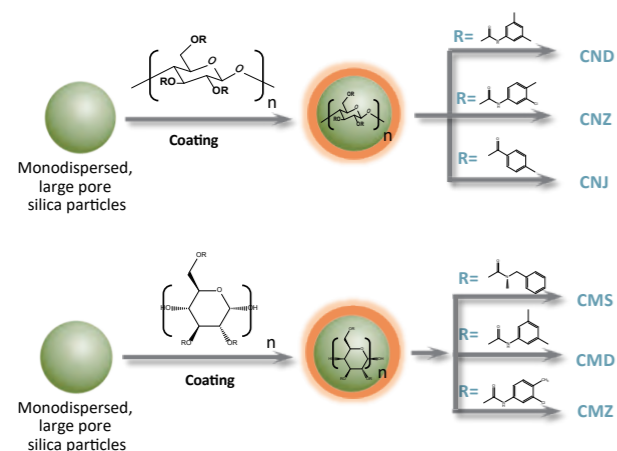
NANOCHROM

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

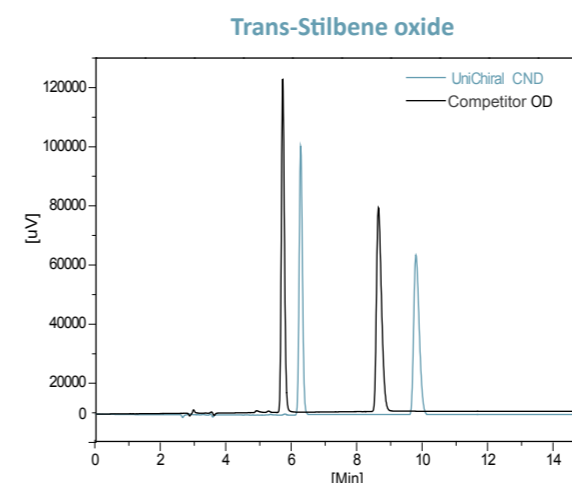
- High enantioselectivity and column efficiency
- Good mechanical strength for extended column life time
- A host of selectivity selection for broad application range
- Satisfactory performance at economical costs



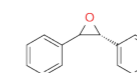
SEM of UniChiral particles

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)	

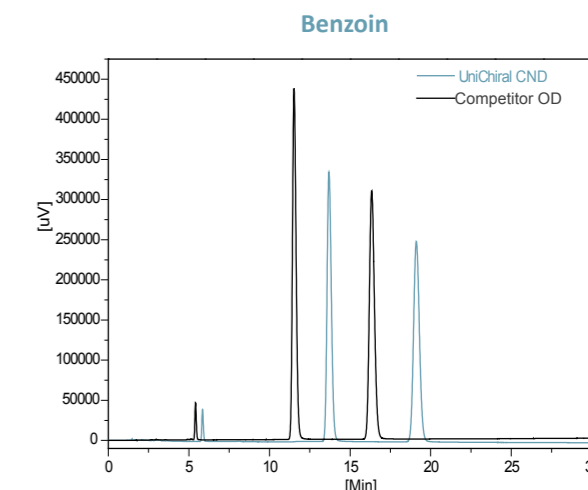
Applications



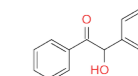
Column: UniChiral CND, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 90/10 v/v Hexane/IPA
Flow Rate: 1 mL/min
Temperature: 25 °C
Detection: UV 254 nm
Sample: Trans-Stilbene oxide



		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	

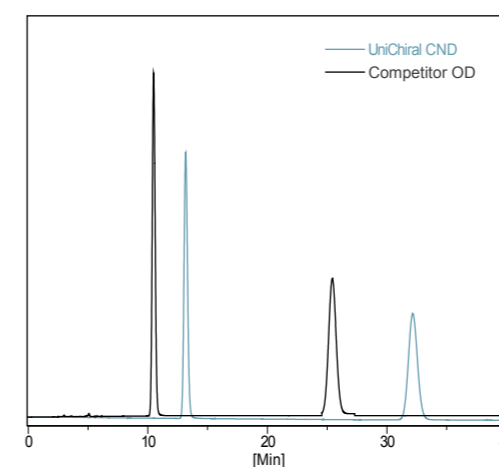


Column: UniChiral CND, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 90/10 v/v Hexane/IPA
Flow Rate: 1 mL/min
Temperature: 25 °C
Detection: UV 254 nm
Sample: Benzoin

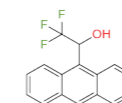


		Theoretical Plate (USP)	Tailing Factor (USP)	α
UniChiral CND	peak 1	11899	1.167	1.50
	peak 2	12707	1.114	
Competitor OD	peak 1	12219	1.197	1.56
	peak 2	12150	1.154	

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

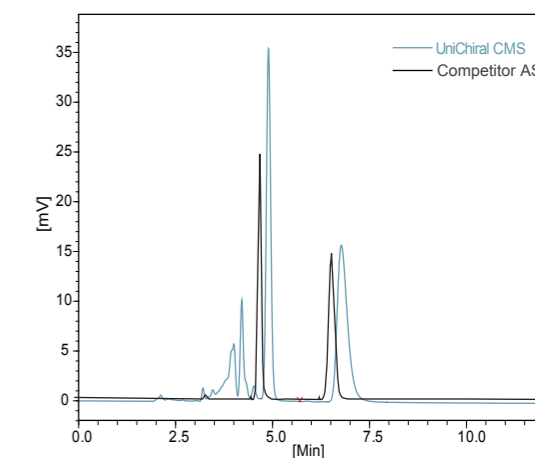


Column: UniChiral CND, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: 90/10 v/v Hexane/IPA
Flow Rate: 1 mL/min
Temperature: 25 °C
Detection: UV 254 nm
Sample: 2,2,2-Trifluoro-1-(9-anthryl)ethanol

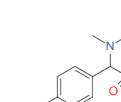


		Theoretical Plate (USP)	Tailing Factor (USP)	α
UniChiral CND	peak 1	9138	1.101	2.85
	peak 2	8287	1.066	
Competitor OD	peak 1	8300	1.090	2.99
	peak 2	7205	1.058	

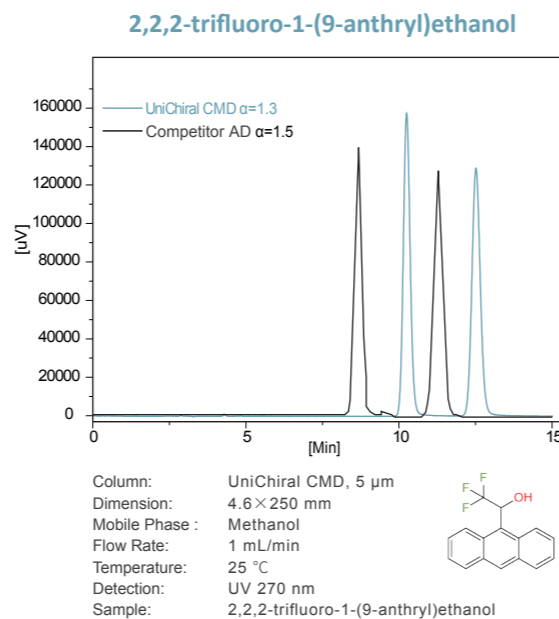
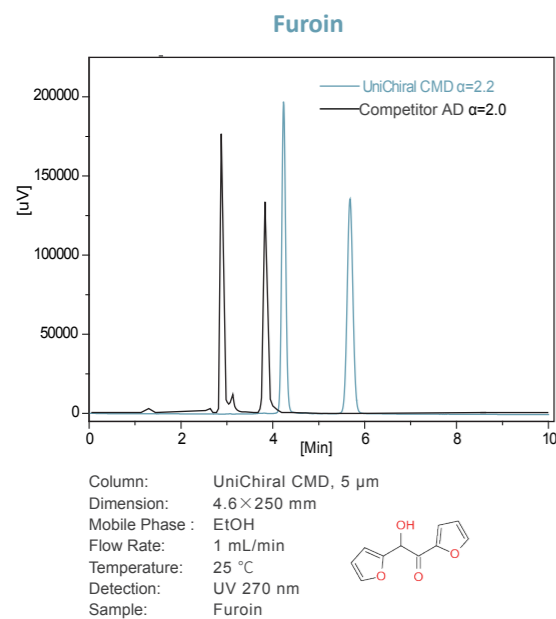
Chlormezanone



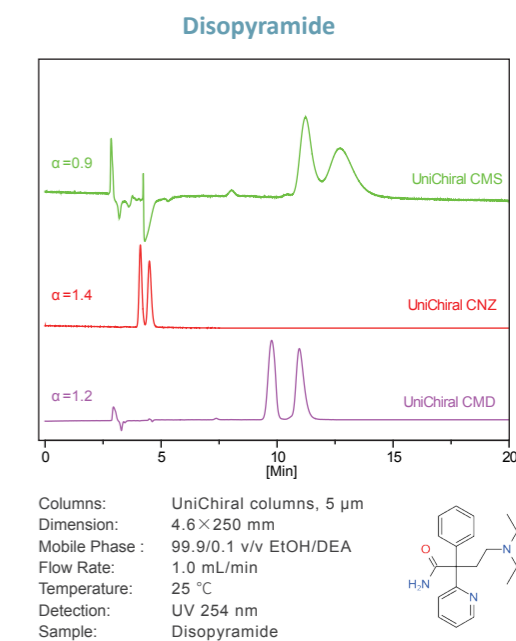
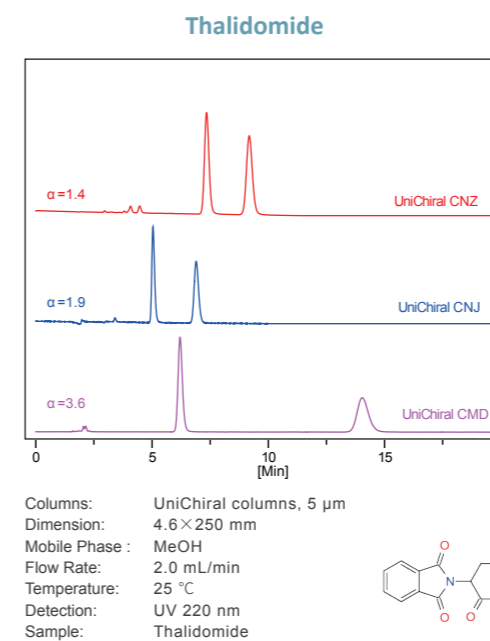
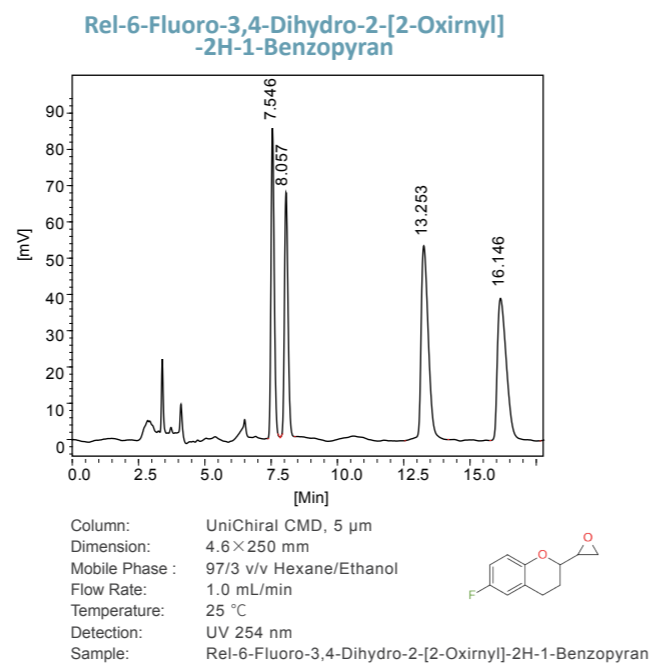
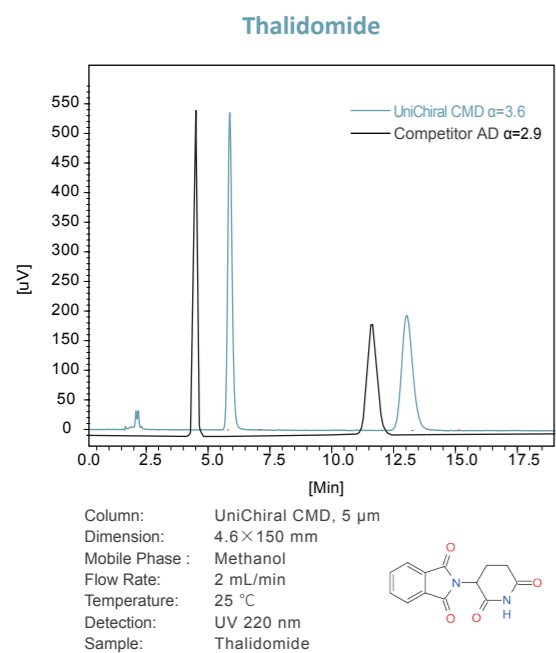
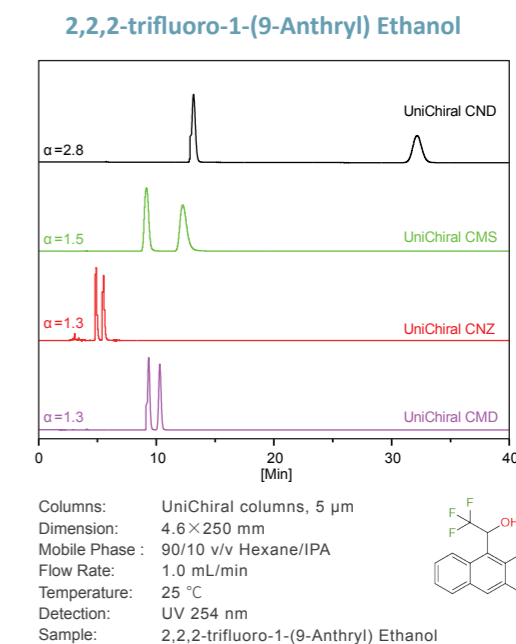
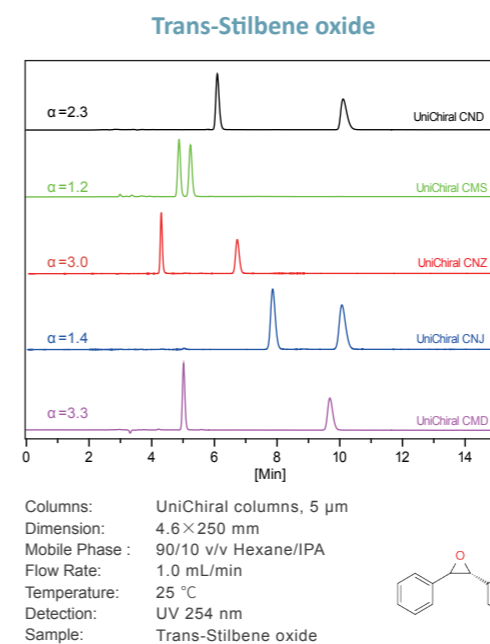
Column: UniChiral CMS, 5 μm
Dimension: 4.6×250 mm
Mobile Phase: Methanol
Flow Rate: 1.0 mL/min
Temperature: 25 °C
Detection: UV 254 nm
Sample: Chlormezanone



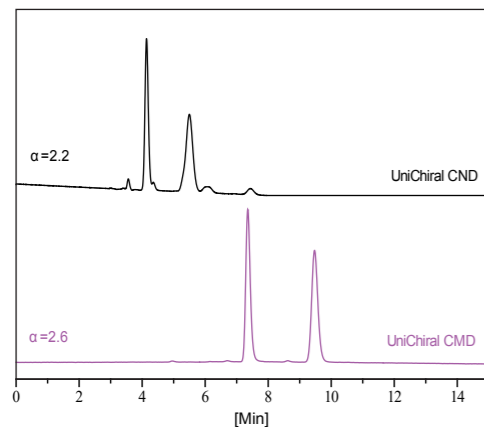
>> UniChiral CMD



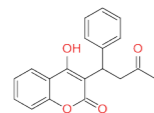
>> Optimization of Unichiral columns process conditions



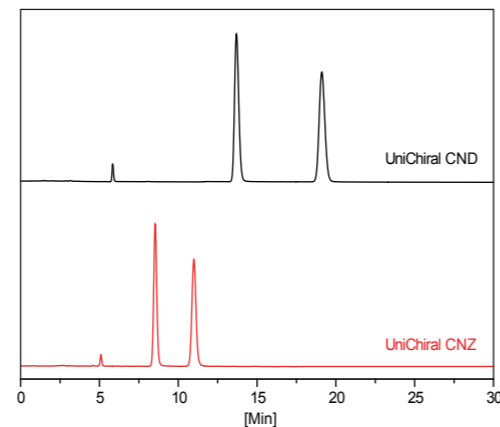
Warfarin



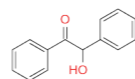
Column: UniChiral columns, 5 µm
 Dimension: 4.6 × 250 mm
 Mobile Phase: 99.9/0.1 v/v EtOH/HAC
 Flow Rate: 1.0 mL/min
 Temperature: 25 °C
 Detection: UV 254 nm
 Sample: Warfarin



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 °C
 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

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	NH ₂	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 EN-15662 EU Method	General fruits and vegetables Highly pigmented fruits and vegetables Fruits and vegetables with fats and waxes Tea with high levels of chlorophyll Animal Origin Food

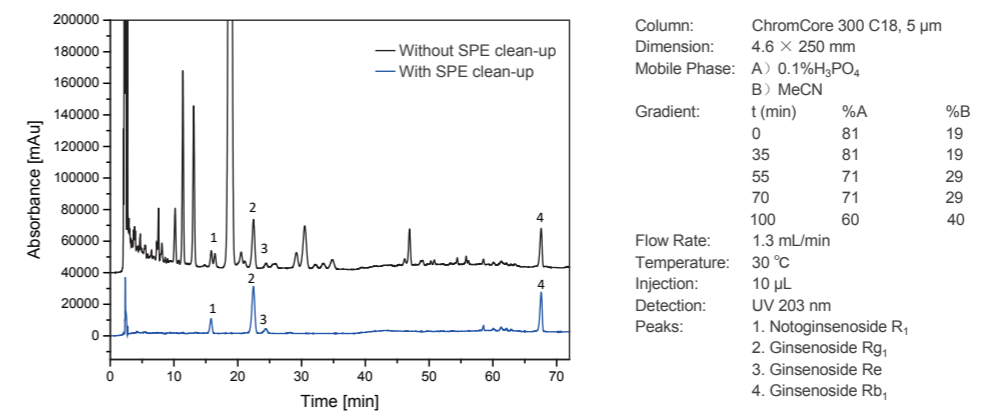
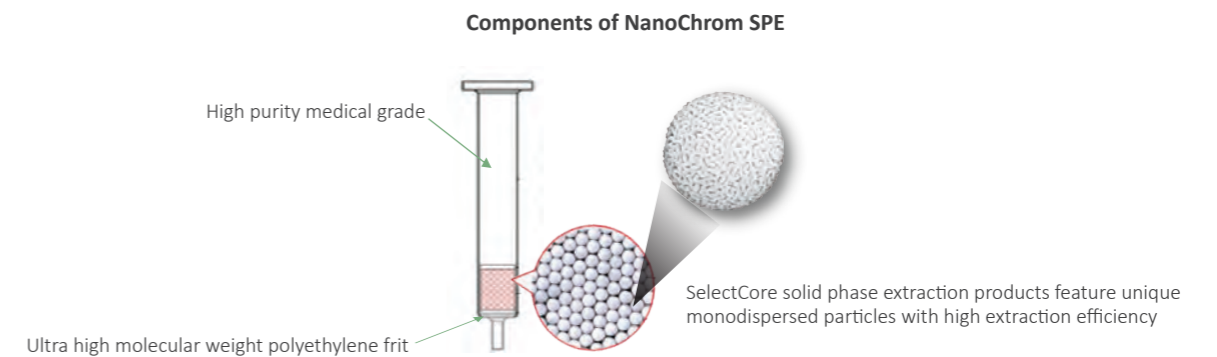
Solid Phase Extraction

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



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

Main Features of SelectCore SPE

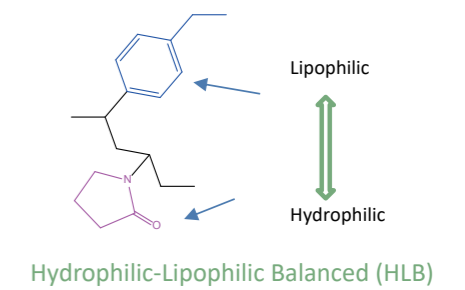
	Matrix	Separation Mode	Product	Main Features
	PVP-DVB	Hydrophobic	HLB	Monodispersed matrix, hydrophilic and lipophilic, wide range of applications
		IEX	MCX, MAX, WCX, WAX	
	PS-DVB	Hydrophobic	PSL, PSS	Monodispersed matrix, high hydrophobicity, high ability to adsorb impurities
		IEX	PSCX	
		SEC	X3	
	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	

PVP-DVB based SPE

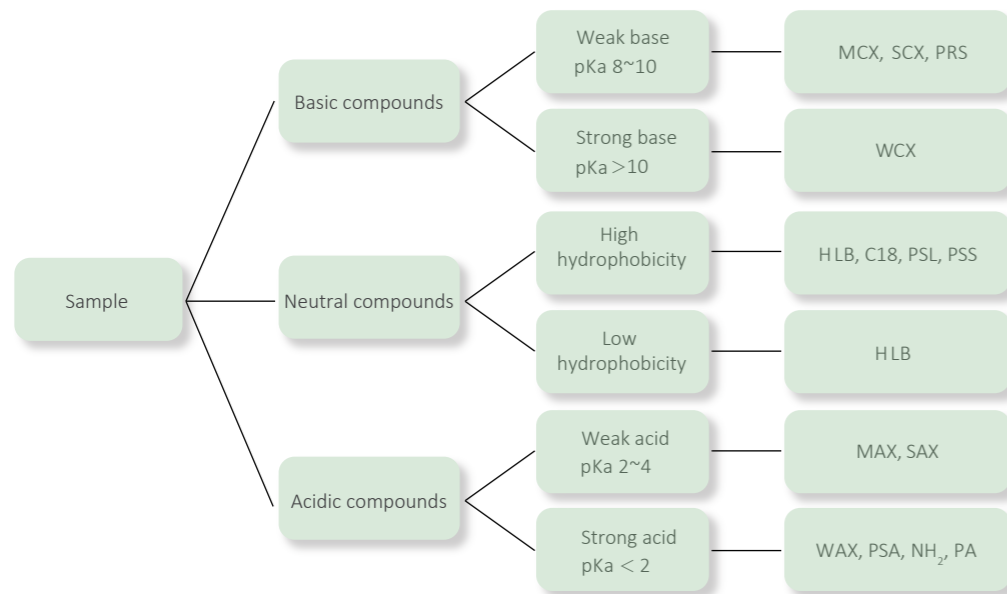
SelectCore HLB based on co-polymerization of N-vinylpyrrolidone (hydrophilic) and divinylbenzene (hydrophobic), is designed for a broad range of compounds from aqueous samples. Due to its unique features such as monodispersed particles, good chemical and mechanical stability and optimized surface chemistry,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

Main Features

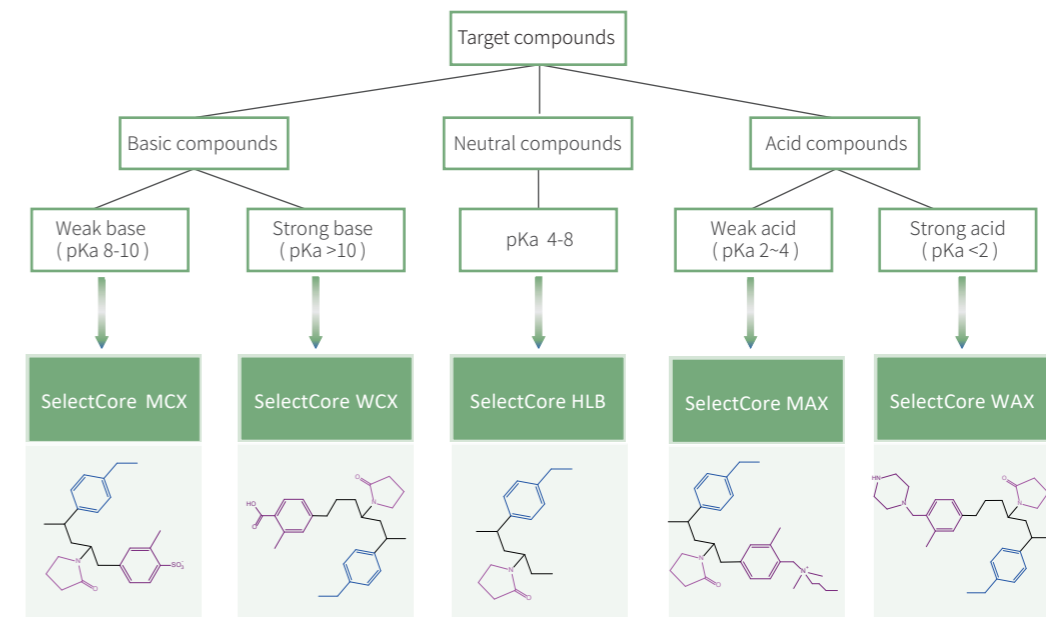
- Optimized pore size distribution and surface functional group density
- Compressed adsorption and elution volume enable less solvent consumption
- Good recovery with a broad range of compounds from aqueous samples
- Good lot-to-lot consistency



SPE Product Selection Guide

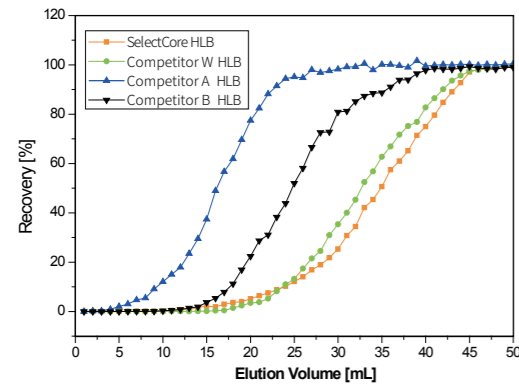


SelectCore PVP/DVB based SPE



01 High sample dynamic binding capacity

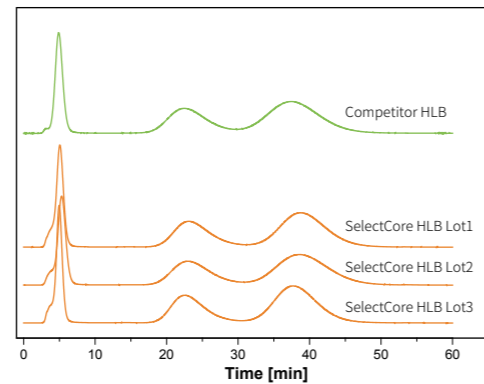
An important factor affecting the extraction efficiency in solid phase extraction procedure is the dynamic adsorption capacity and desorption capacity of the sorbent. Due to the unique monodispersed polymer matrix, SelectCore HLB exhibits high dynamic binding capacity.



SelectCore HLB dynamic binding capacity

02 Batch-to-batch reproducibility

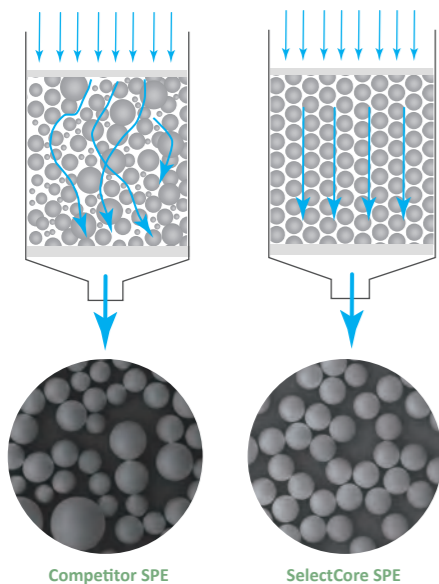
Based on the unique monodispersed polymer matrix, SelectCore HLB can provide more stable elution time and volume, hence reproducible results.



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 are highly reproducible across different product lots.

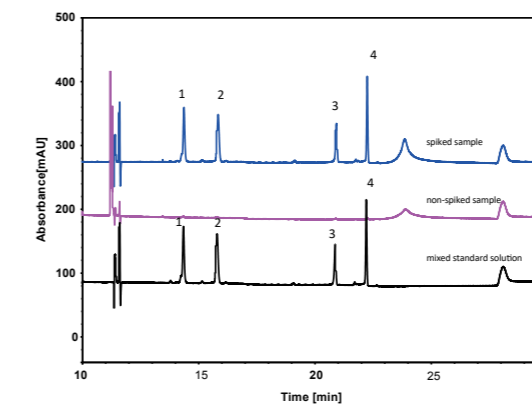
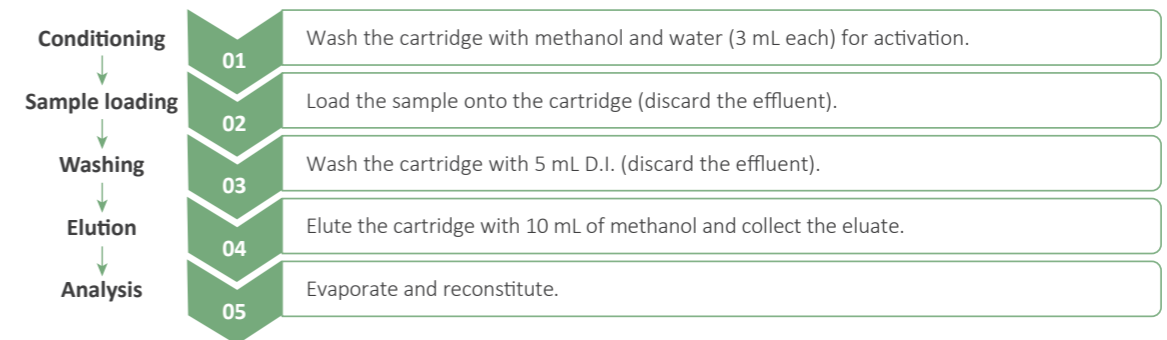
Compound by elution solvent	Specification recovery %	Average recovery% (n=6)
Ranitidine	≥90	96.5
Acetaminophen	≥90	99.5
Oxytetracycline	≥90	94.8
Tetracycline	≥90	95.4
Chlortetracycline	≥90	105.6
Doxycycline	≥90	102.4

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.

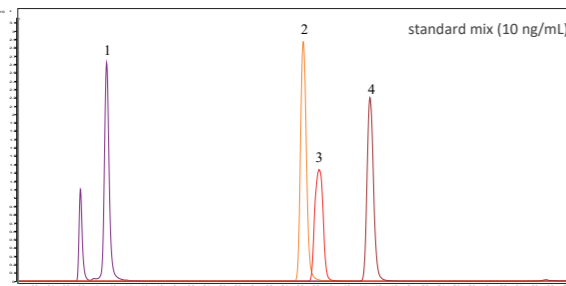
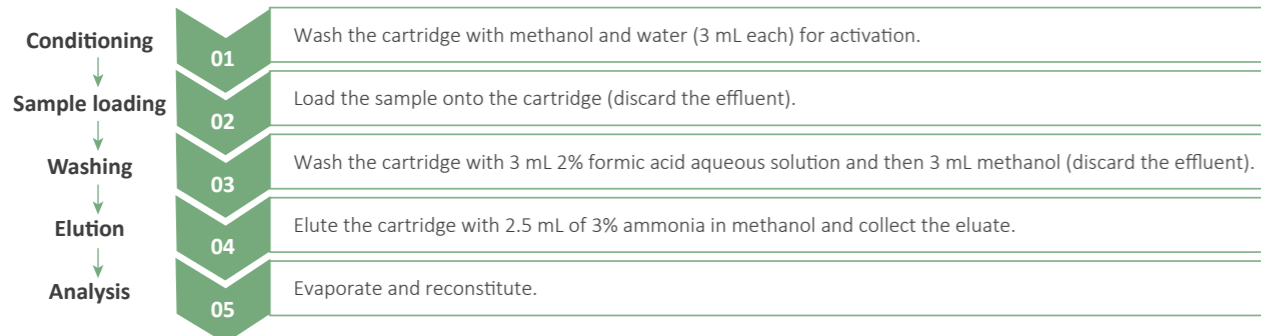


Column: ChromCore C18, 3 μm
 Dimension: 4.6 × 150 mm
 Mobile Phase: A) 0.01 mol/L oxalic acid
 B) MeCN
 Gradient: t(min) %A %B
 0 85 15
 6 85 15
 15 70 30
 20 70 30
 22 85 15
 25 85 15
 Flow Rate: 1.0 mL/min
 Temperature: 30 °C
 Injection: 10 μL
 Detection: UV 350 nm
 Peaks: 1. oxytetracycline
 2. tetracycline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

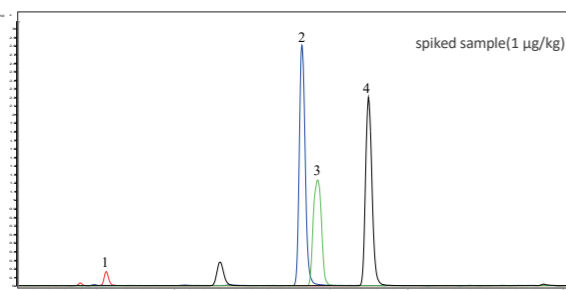
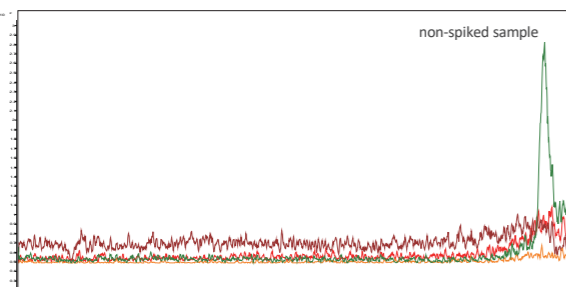


Column: ChromCore C18, 3 μm
 Dimension: 2.1 × 100 mm
 Mobile Phase: A) 0.1% formic acid
 B) MeCN
 Gradient:

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 °C
 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	Matrix	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-substituted 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.

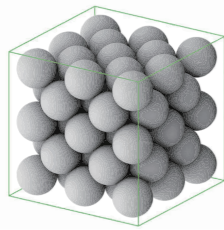
Ordering Information

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

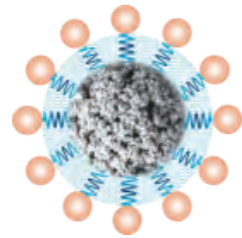
Affinity SPE

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.

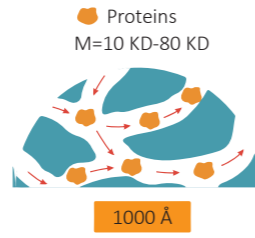
Main Features



Monodispersed particles
High column efficiency
Stable flow rate
Good consistency



Excellent surface chemistry
Low non-specific adsorption
High recovery

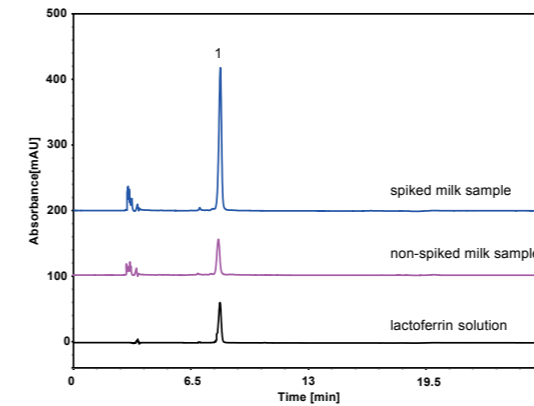
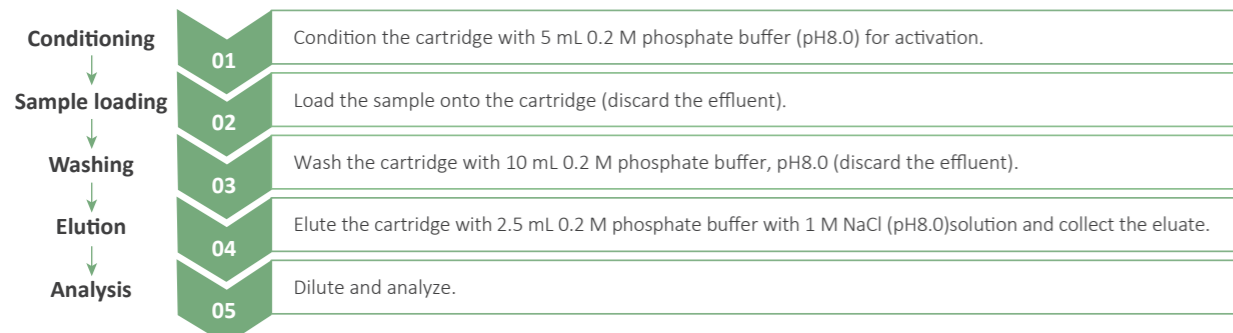
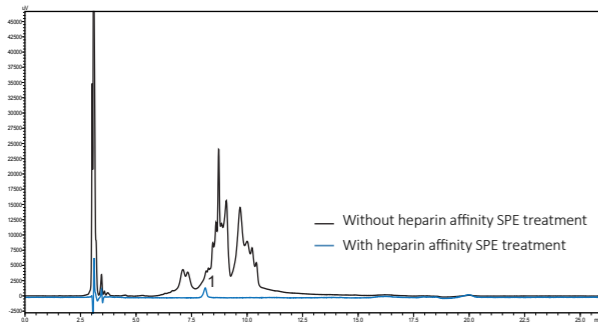


Large pore size
High mass transfer

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.



Column: ChromCore 300 C4-T, 5 μ m
 Dimension: 4.6 \times 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 $^{\circ}$ C
 Injection: 20 μ L
 Detection: UV 280 nm
 Peaks: 1. Lactoferrin

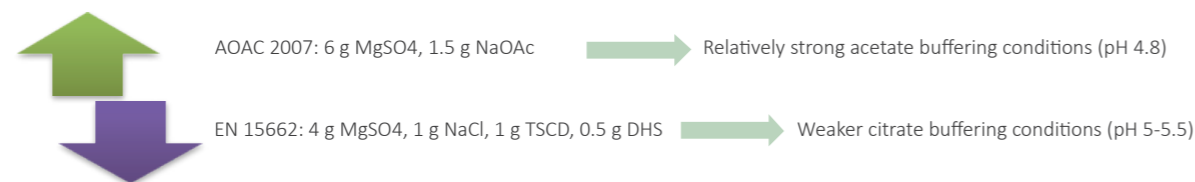
Spiked added	Recovery
10 mg/100 g	94.30%
50 mg/100 g	95.61%

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.



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.

- ◆ MgSO₄ 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

GC Columns

NanoChrom™ BP GC Columns



NanoChrom BP GC Columns	125
USP GC Phases	127
ASTM Methods	128
Applications	132
Ordering Information	137

NANOCHROM

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 (°C)	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 nitroterephthalic 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

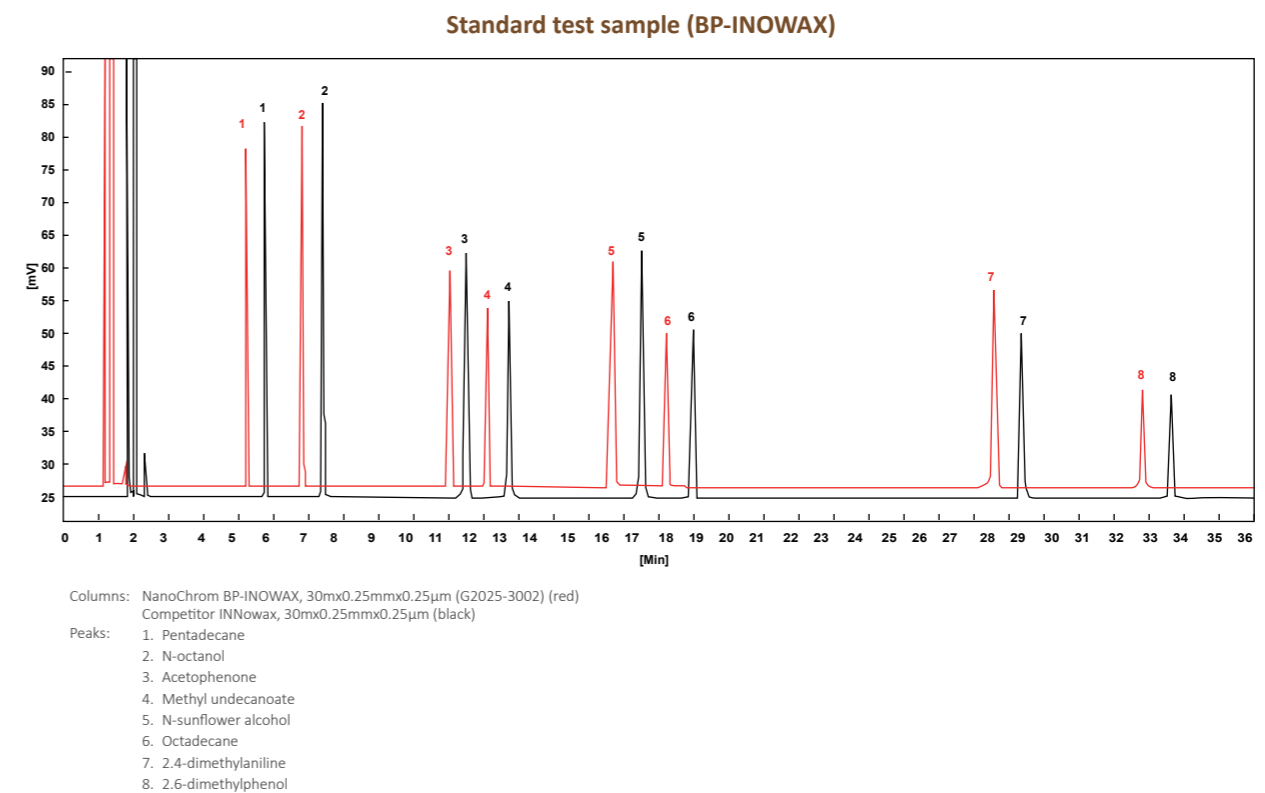
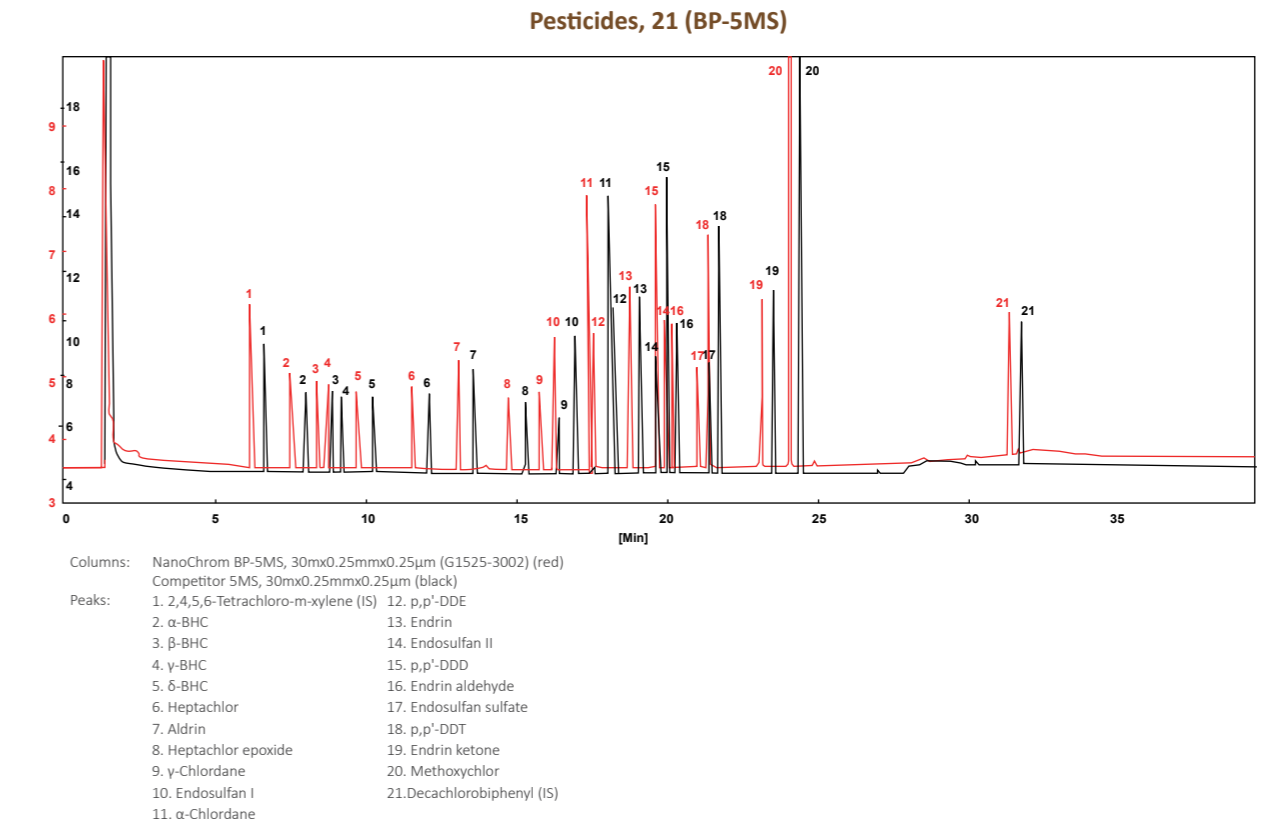
ASTM Designation	Testing Method	Method Title	Recommended NanoChrom GC Columns	P/N
D1945	GC	Standard test method for the analysis of natural gas	NanoChrom BP-PLOT MoleSieve, 15mx0.53mmx50µm NanoChrom BP-PLOT Q, 15mx0.53mmx30µm	G8453-1550 G8653-1530
D1946	GC	Standard test method for the analysis of reformed 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 ₂ O ₃ "KCl", 30mx0.53mmx15µm NanoChrom BP-PLOT Al ₂ O 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 ₂ O 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 ₂ O ₃ "M", 30mx0.53mmx15µm	G8353-3015
D2712	GC	Standard test method for hydrocarbon traces in concentrated propylene	NanoChrom BP-PLOT Al ₂ O 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 halogenated 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 sampling	Standard test method for the analysis of purgeable organic compounds 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 ₂ O 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 cyclohexylamine, 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

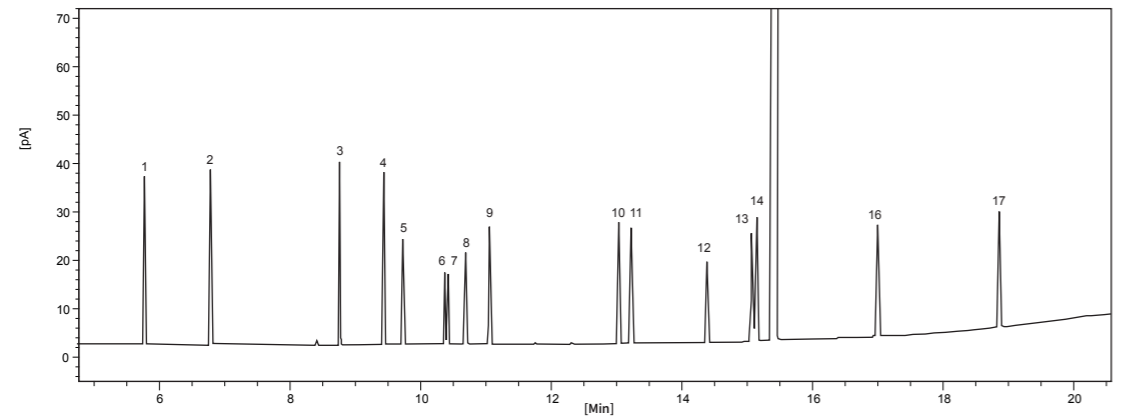
ASTM Designation	Testing Method	Method Title	Recommended NanoChrom GC Columns	P/N
D5060	GC	Standard test method for determining the impurities in high-purity ethylbenzene	NanoChrom BP-INOWAX, 60mx0.32mmx0.5µm	G2032-6005
D5075	GC	Standard test method for the analysis of nicotine in indoor air	NanoChrom 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	Microextraction 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-acrylonitrile 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 for 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 ₂ O ₃ "KCl", 50mx0.53mmx15µm NanoChrom BP-PLOT Al ₂ O 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 monocyclic 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

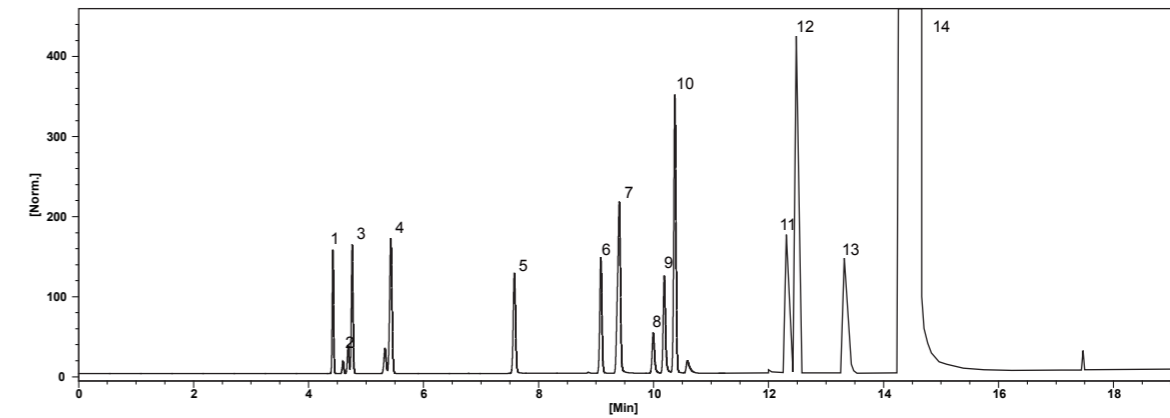


Phthalate esters (NanoChrom BP-5MS)



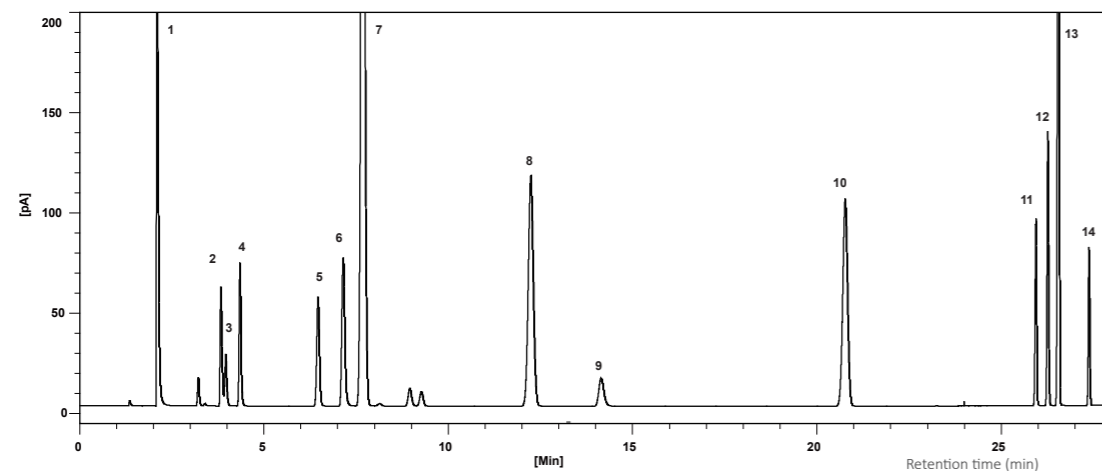
Column:	NanoChrom BP-5MS	Peaks:	1. Dimethylphthalate	5.799
Dimension:	30mx0.25mmx0.25µm		2. Diethylphthalate	6.807
Carrier:	Hydrogen, flow 1.5 mL/min		3. Phthalic acid diisobutyl ester	8.791
Inlet:	Split, 275°C, split flow 60 mL/min		4. Di-n-butylphthalate	9.462
Oven:	80 °C (hold 0.5 min) to 160 °C at 30 °C/min, to 240 °C (hold 2 min) at 15 °C/min to 320 °C (hold 1 min) at 8 °C/min.		5. Bis(2-methoxyethyl)phthalate	9.753
Inject Volume:	EPA 8061 standard 1 µL		6. Bis(4-methyl-2-pentyl) phthalate isomer	10.403
Detector:	FID 325 °C		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

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



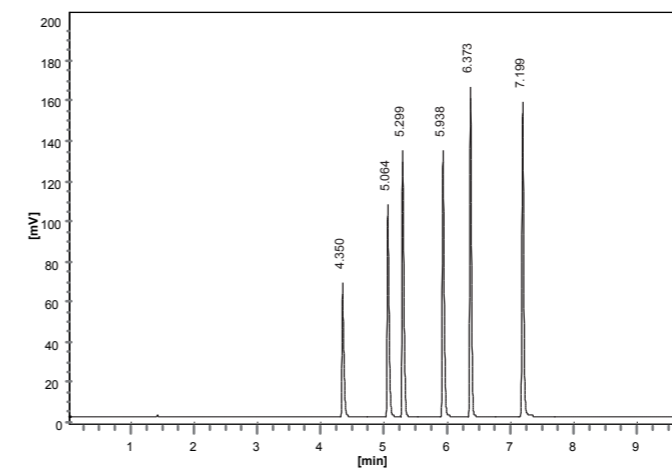
Column:	NanoChrom BP-FFAP	Peaks:	1. Pentane	4.420
Dimension:	60mx0.32mmx0.50µm		2. Hexane	4.685
Carrier:	Hydrogen, 1.3 mL/min (Constant Flow)		3. Tert-butyl methyl ether (MTBE)	4.755
Inlet:	Split, 240 °C, Split flow 50 mL/min		4. Acetone	5.427
Oven:	45 °C (hold 5 min) to 120 °C (hold 1 min) at 5 °C/min		5. Ethyl acetate	7.575
Inject Volume:	0.1 µL		6. 2-Butanone	9.079
Detector:	FID 260 °C		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

Residual solvent (NanoChrom BP-624)



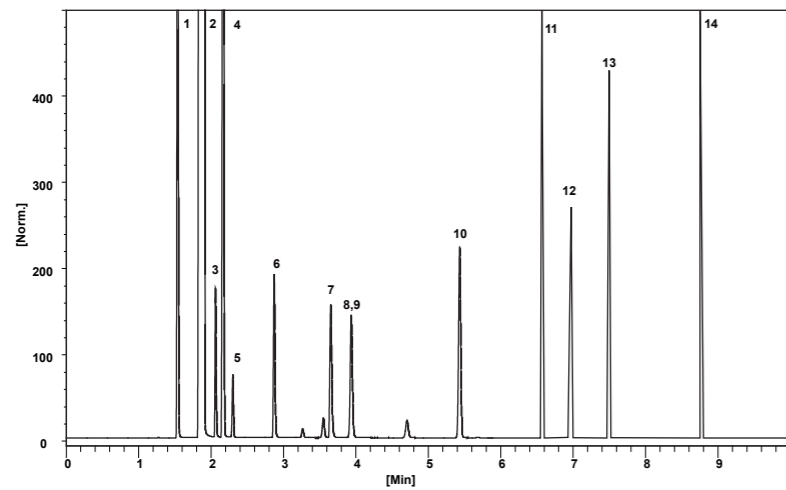
Column:	NanoChrom BP-624	Peaks:	1. Methanol	2.094
Dimension:	30mx0.32mmx1.80µm		2. Acetonitrile	3.825
Carrier:	Hydrogen, flow 2.3 mL/min		3. Dichloromethane	3.959
Inlet:	Split, 260 °C, split flow 60 mL/min		4. trans-1,2-Dichloroethene	4.343
Oven:	40 °C (hold 20 min) to 240 °C (hold 20 min) at 10 °C/min		5. cis-1,2-Dichloroethene	6.459
Sample:	USP class 2 residual solvent mixture A		6. Tetrahydrofuran	7.143
Detector:	FID 280 °C		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

Volatile fatty acids and phenols (NanoChrom BP-FFAP)



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

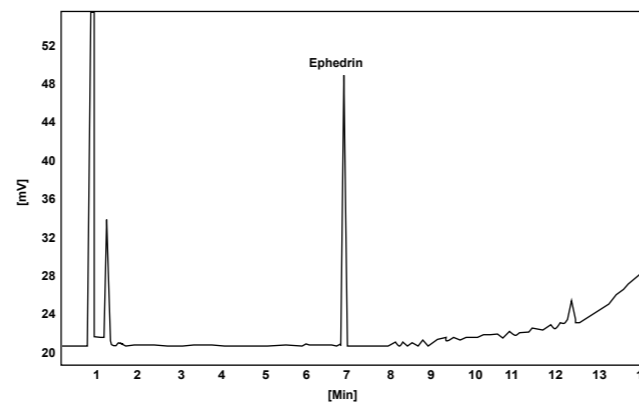
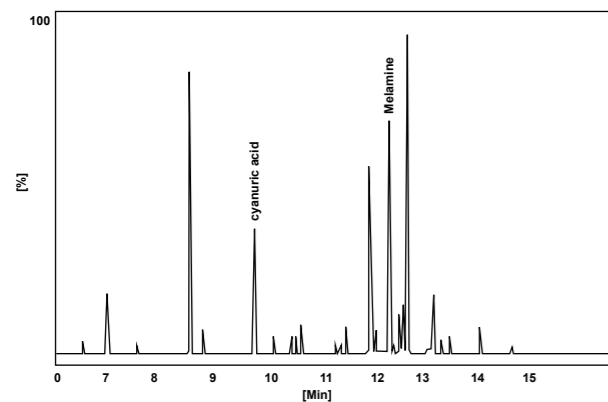
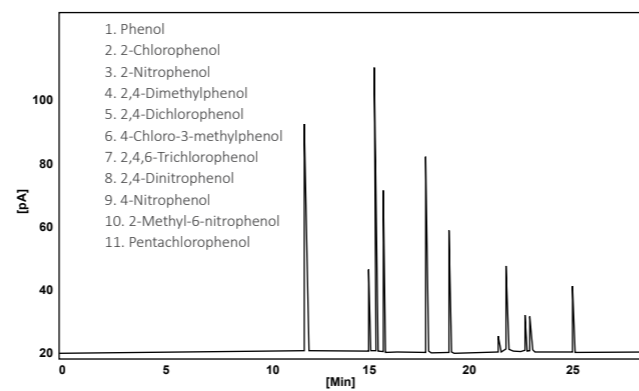
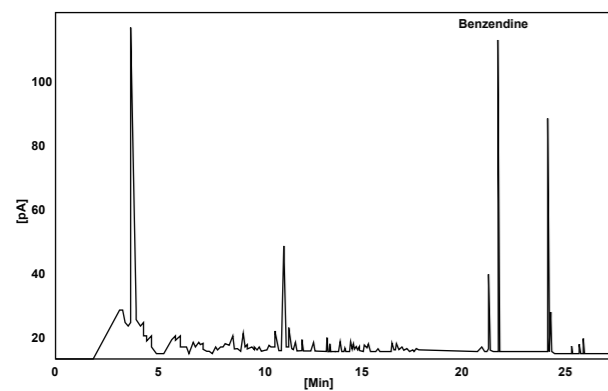
Fusel alcohol products (NanoChrom BP-BioEtOH)



Column: NanoChrom BP-BioEtOH
 Dimension: 30m x 0.25mm x 1.00µm
 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)

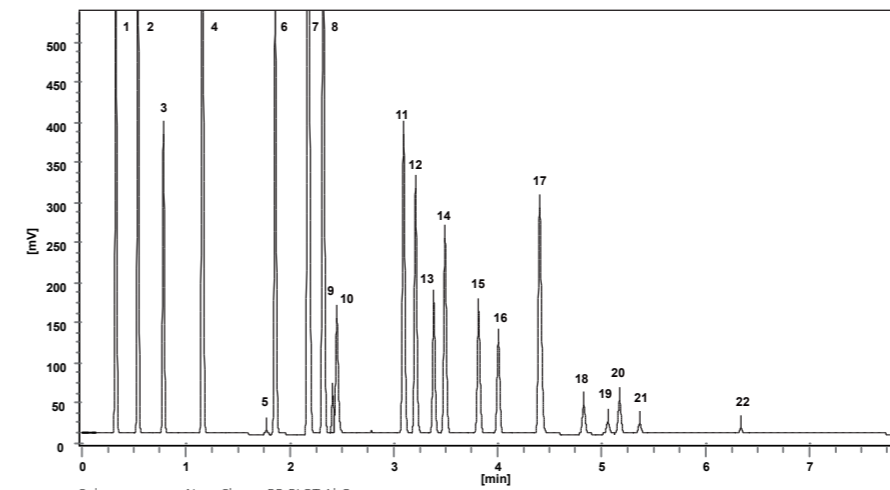
Demonstrate excellent column inertness of NanoChrom BP-5MS column both benzidine and pentachlorophenol show symmetric and sharp peak shapes even at low levels of 1 ppm sample introduction. Because of the high degree of column inertness, while other suppliers use thicker film thickness (0.5 µm), NanoChrom 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, 30m x 0.25mm x 0.25µm (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.

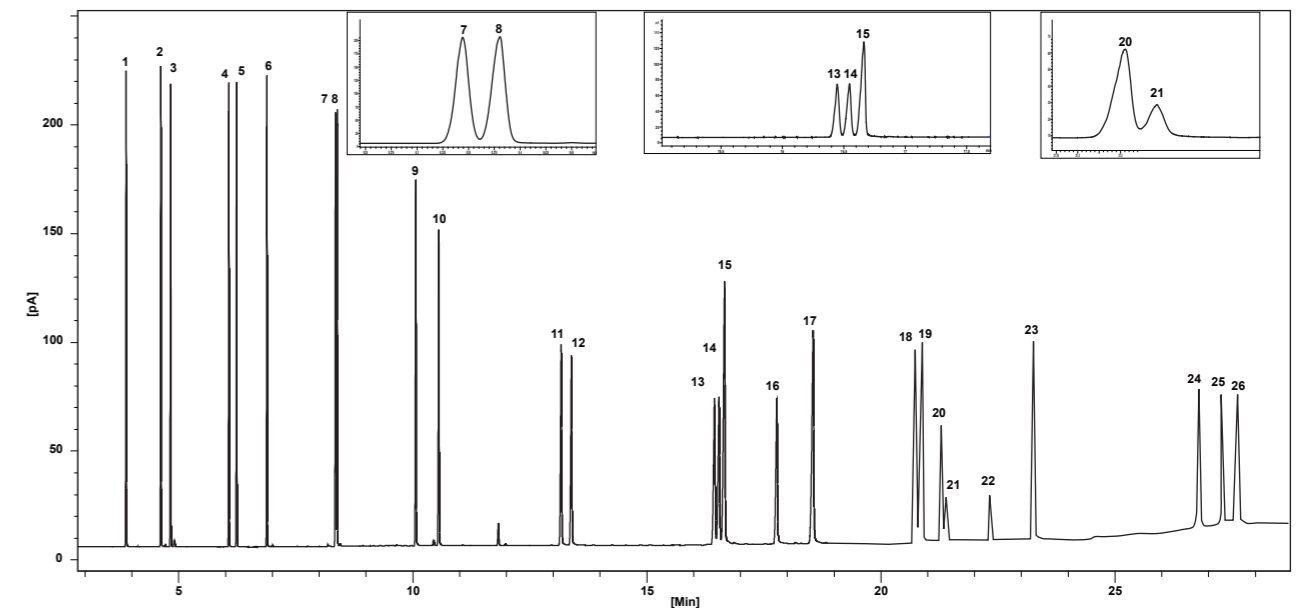
Refined gas (NanoChrom BP-PLOT Al₂O₃)



- 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 Al₂O₃
 Dimension: 30m x 0.53mm x 15µm
 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

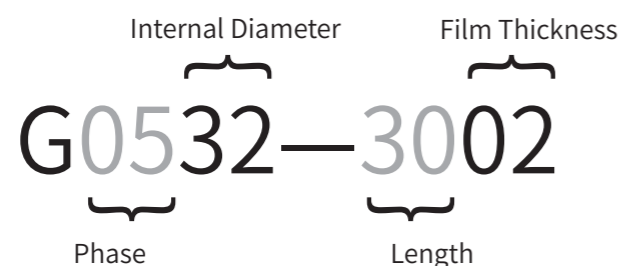
26 PAHs (NanoChrom BP-5MS-PAH)



Column: NanoChrom BP-5MS-PAH
 Dimension: 30m x 0.25mm x 0.25µm
 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	14. Benzo[k]fluoranthene	16.55
2. 1-Methylnaphthalene	4.61	15. Benzo[j]fluoranthene	16.66
3. 2-Methylnaphthalene	4.82	16. Benzo[a]pyrene	17.78
4. Acenaphthylene	6.07	17. 3-Methylcholanthrene	18.56
5. Acenaphthene	6.23	18. Dibenzo[a,h]acridine	20.74
6. Fluorene	6.88	19. Dibenzo[a,j]acridine	20.86
7. Phenanthrene	8.34	20. Indeno[1,2,3-cd]pyrene	21.31
8. Anthracene	8.38	21. Dibenzo[a,h]anthracene	21.38
9. Fluoranthene	10.07	22. Benzo[ghi]perylene	22.33
10. Pyrene	10.56	23. 7H-Dibenzo[c,g]carbazole	23.25
11. Benzo[a]anthracene	13.17	24. Dibenzo[a,e]pyrene	26.81
12. Chrysene	13.39	25. Dibenzo[a,i]pyrene	27.30
13. Benzo[b]fluoranthene	16.45	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 ₂ O ₃ , "KCl"	81
NanoChrom BP PLOT Al ₂ O ₃ , "S"	82
NanoChrom BP PLOT Al ₂ O 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



NanoChrom Technologies (Suzhou) Co., Ltd

FILE VERSION:2021.9

