KINETEX®
Core-Shell Technology™

These Phases ROCK Your LC Laboratory

phenomenex®
. . . breaking with tradition℠

KINETEX
Core-Shell Technology

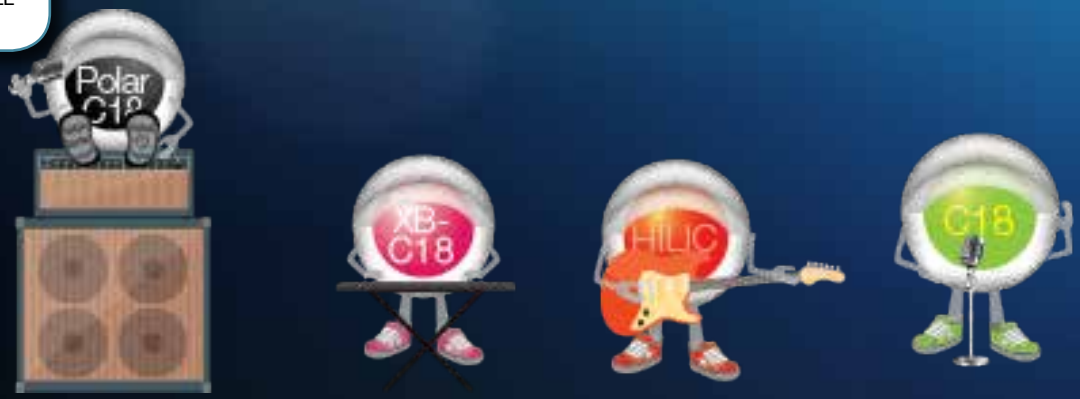
Chromatographers in the following industries can benefit from the advantages of Core-Shell technology:

- Agriculture
- Forensics
- Clinical
- Life Science
- Environmental
- Pharmaceutical
- Food and Beverage
- Chemical/Industrial
- Consumer Care

guarantee

If you are not completely satisfied with Kinetex core-shell columns, send in your comparative data to a similar product with the Kinetex column within 45 days for a FULL REFUND.

Efficiency



KINETEX
Core-Shell Technology

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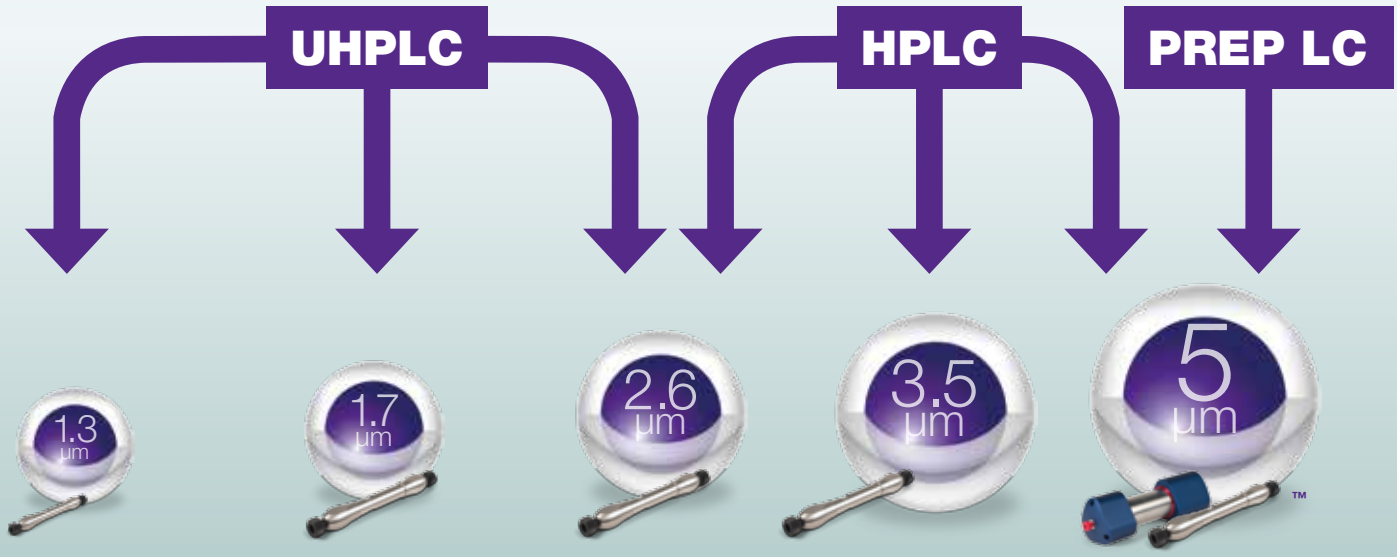
Resolution **Productivity** **Selectivity**

The Technology

KINETEX® Core-Shell Technology

Complete Scalable Solution from UHPLC to HPLC to PREP LC



Incredible UHPLC efficiency and performance gains

20 % higher efficiency than fully porous 1.7 µm columns

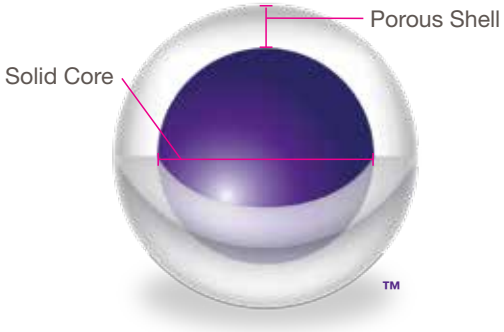
Achieve sub-2 µm performance on HPLC and UHPLC systems

Instantly improve your pharmacopoeia (Ph. Eur. & USP) monographs that require 3.5 µm particle size

3 µm or better efficiencies at 5 µm pressures for HPLC and PREP LC methods

Better Performance than Fully Porous Particles

Using sol-gel processing techniques that incorporate nano structuring technology, a durable, homogeneous porous shell is grown on a solid silica core. This highly optimized process combined with industry leading column packing technology produces highly reproducible columns that generate extremely high plate counts.



Fully Porous		Kinetex Core-Shell	Average Efficiency Gain with Kinetex*
5 µm	vs	5 µm	90 % Higher
3 µm	vs	2.6 µm	85 % Higher

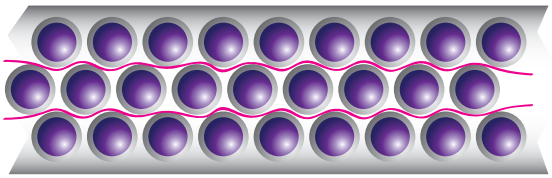
Fully Porous		Kinetex Core-Shell	Average Efficiency Gain with Kinetex*
1.7 µm	vs	1.7 µm	20 % Higher
1.7 µm	vs	1.3 µm	50 % Higher

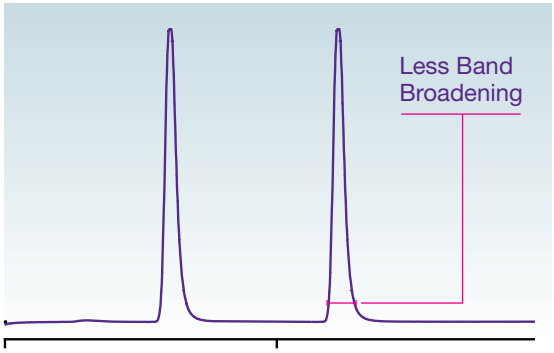
* May not be representative of all applications

KINETEX® Core-Shell Technology

Kinetex Core-Shell Technology

- Obtain higher throughput without sacrificing resolution
- Easy method transfer across LC system platforms
- Reduce solvent consumption with faster analysis
- Reach lower levels of detection and quantitation





2009 — Small Molecules

2010 — Synthetic Oligonucleotides

2011 — Peptides / Proteins

2014 — Kinetex EVO

KINETEX® Core-Shell Technology

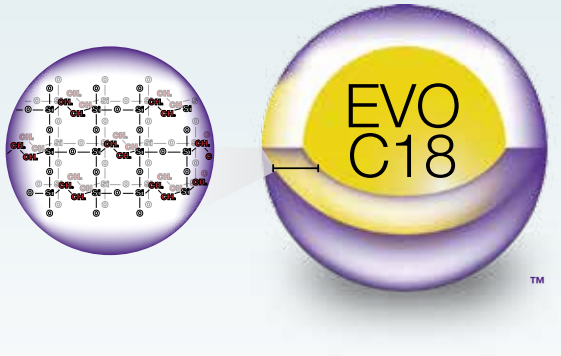
CLARITY® BIOSOLUTIONS

AERIS® Bio Core-Shell Technology

EVO C18™

Kinetex EVO C18

Kinetex EVO C18 uses a patented organo-silica grafting process which incorporates uniform stabilizing ethane cross-linking to provide resistance to high pH attack while maintaining mechanical strength of the core-shell particle.



Core-Shell Advantage for UHPLC

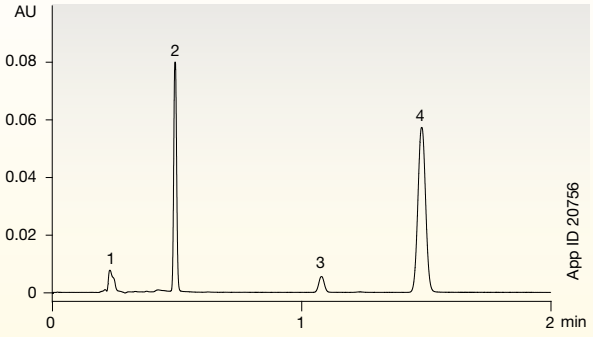
KINETEX® Core-Shell Technology

Get the Most Performance Out of Your UHPLC System

Kinetex 1.3 and 1.7 µm Core-Shell Technology produces increased efficiencies over traditional sub-2 µm columns on the market, yielding remarkable chromatographic resolution, higher peak capacities, and greater sensitivity, so you can get the most out of every UHPLC analysis.

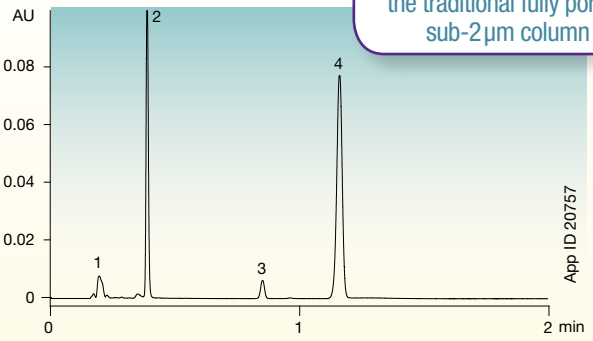
Incredible Efficiency Gains

Waters® ACQUITY® BEH 1.7 µm C18



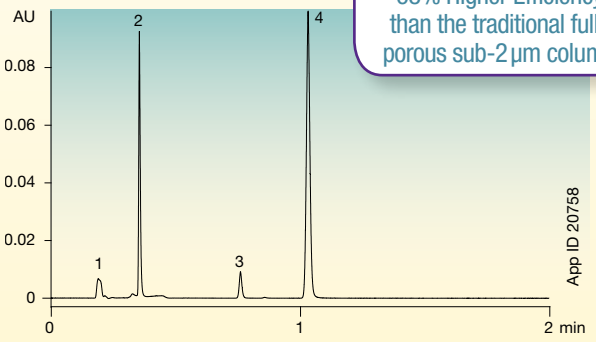
Kinetex 1.7 µm C18

25% Higher Efficiency than the traditional fully porous sub-2 µm column



Kinetex 1.3 µm C18

68% Higher Efficiency than the traditional fully porous sub-2 µm column



Easy Installation on UHPLC Systems: www.phenomenex.com/kinetex

Conditions for all columns:

Columns:	Kinetex 1.7 µm C18 Kinetex 1.3 µm C18 ACQUITY UPLC® BEH 1.7 µm C18
Dimensions:	50 x 2.1 mm
Mobile Phase:	Acetonitrile / Water (50:50)
Flow Rate:	0.5 mL/min
Temperature:	Ambient
Detection:	UV @ 254 nm
Instrument:	Waters® ACQUITY® UPLC®
Sample:	1. Acetophenone 2. Benzene 3. Toluene 4. Naphthalene

Efficiency calculated from peak 4 in each chromatogram. Waters, ACQUITY, and UPLC are registered trademarks, and BEH Technology is a trademark of Waters Corporation. Phenomenex is not affiliated with Waters Corporation. Comparative separations may not be representative of all applications.

Column Protection with No Loss in Performance

Trap contaminants and microparticulates within the SecurityGuard™ ULTRA guard cartridge system and learn how to greatly extend UHPLC column life at:

www.phenomenex.com/SecurityGuardULTRA

R&D 100 Award Recipient

Core-Shell Advantage for HPLC and UHPLC

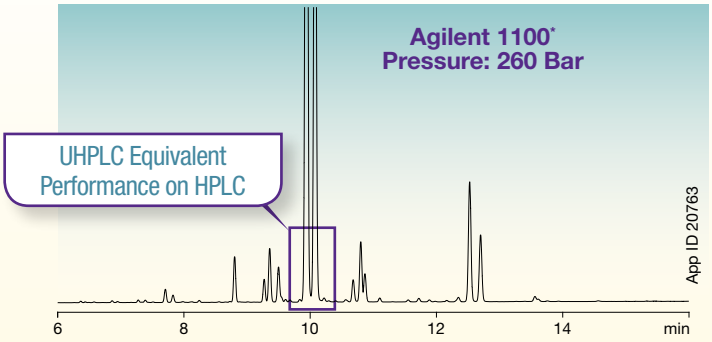
KINETEX® Core-Shell Technology

A Versatile Upgrade for HPLC and UHPLC

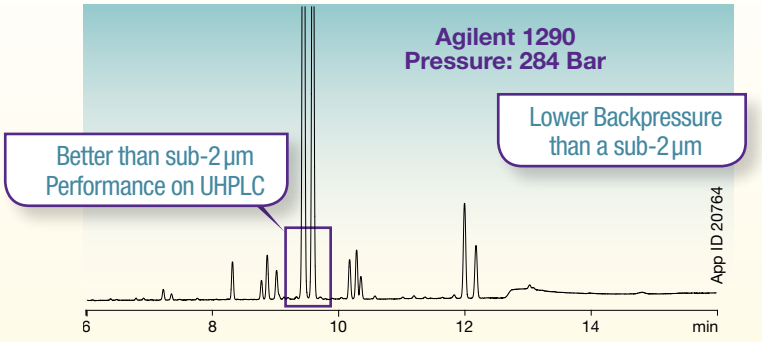
On a low volume HPLC or UHPLC system Kinetex 2.6 µm columns will perform like a fully porous sub-2 µm column, providing up to 3x the efficiency of 5 µm and double the efficiency of 3 µm fully porous media. Dramatically improve the productivity and performance of your existing methods with the use of shorter Kinetex columns, all while decreasing your solvent usage!

Sub-2 µm Performance with Kinetex 2.6 µm on HPLC and UHPLC Systems

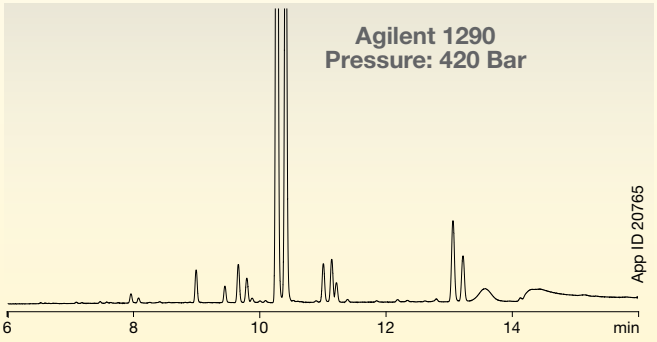
Kinetex 2.6 µm C18



Kinetex 2.6 µm C18



Agilent® ZORBAX® 1.8 µm SB-C18



Conditions for all columns same except where noted:

Columns:	Kinetex 2.6 µm C18 (Agilent 1100*) Kinetex 2.6 µm C18 (Agilent 1290) ZORBAX 1.8 µm SB-C18 (Agilent 1290)
Dimensions:	100 x 4.6 mm
Mobile Phase:	A: Water with 0.1% TFA B: Acetonitrile with 0.1% TFA
Gradient:	**Time (min)** **% B** 0 10 20 70
Flow Rate:	1.2 mL/min
Temperature:	Ambient
Detection:	UV @ 210 nm
Sample:	Mupirocin degradants

*Agilent 1100 was optimized with the Core-Shell Performance Enhancement Kit AQ0-8892.
Agilent and ZORBAX are registered trademarks of Agilent Technologies, Inc. Phenomenex is not affiliated with Agilent Technologies.
Comparative separations may not be representative of all applications.

Maximize Performance with Kinetex 2.6 µm

Decrease the system dwell volume of your HPLC instrument with the pre-cut tubing and column fittings found in the Core-Shell Performance Enhancement Kit and instantly improve the observed performance of your Kinetex core-shell 2.6 µm column.

www.phenomenex.com/enhancement

AQ0-8892

Core-Shell Advantage for HPLC

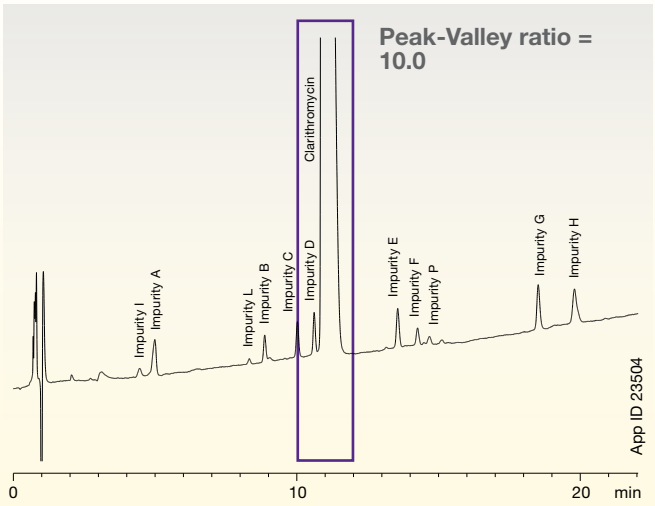
KINETEX® Core-Shell Technology

Instantly Improve Your 3.5 µm Pharmacopoeia Methods

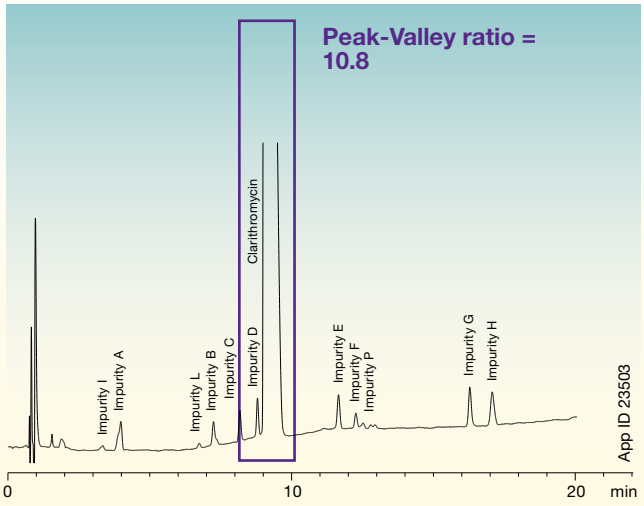
Immediately improve resolution, productivity, and sensitivity of your current 3.5 µm HPLC methods following the requirements of Ph. Eur. or USP with the new Kinetex 3.5 µm Core-Shell Technology. This core-shell particle was developed for use on standard or older model HPLC systems that may have low pressure limitations.

Clarithromycin according to Ph. Eur. Monograph 1651

Kromasil® 3.5 µm C18



Kinetex 3.5 µm XB-C18



Using Kinetex 3.5 µm XB-C18 for the Clarithromycin method provides the user with better resolution and narrower peaks for better quantification compared to a fully porous 3.5 µm C18 material.

Conditions for both columns:

Columns: Kinetex 3.5 µm XB-C18
Kromasil 3.5 µm C18
Dimensions: 100 x 4.6 mm
Mobile Phase: A: 4.76 g/L Potassium phosphate pH 4.4
B: Acetonitrile

Gradient:

Time (min)	% B
0	25
32	65
34	65

Injection: 10 µL
Detection: UV @ 205 nm
Sample: Clarithromycin

Kromasil is registered trademark of AkzoNobel Pulp And Performance Chemicals AB. Phenomenex is not affiliated with AkzoNobel.
Comparative separations may not be representative of all applications.

Allowable Adjustments to Pharmacopoeia Methods

Recent revisions of the Ph. Eur. and USP detail what "allowable adjustments" can be made to methods without resorting to revalidation. Find out what changes you are allowed to make by visiting:

www.phenomenex.com/allowable

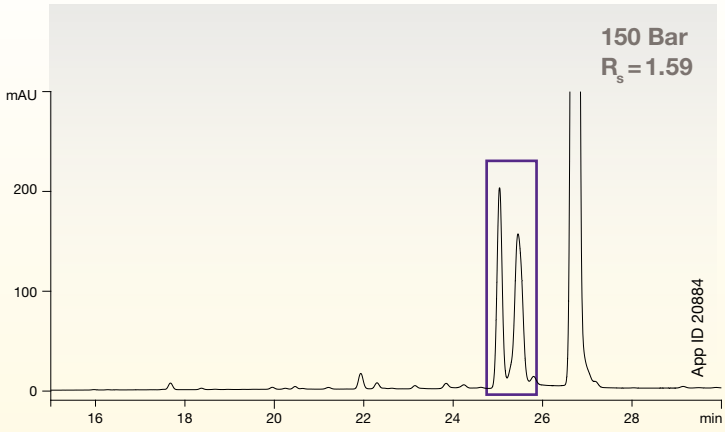
Core-Shell Advantage for HPLC

KINETEX® Core-Shell Technology

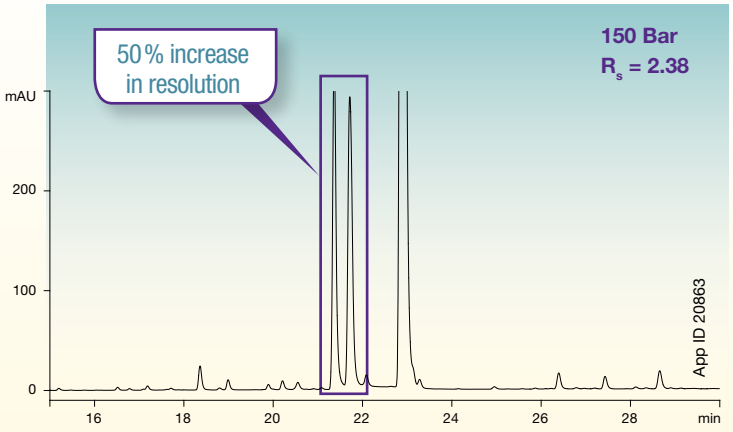
Instantly Improve 5 µm and 3 µm Methods

Immediately improve resolution, productivity, and sensitivity of your current 3 µm and 5 µm HPLC methods with Kinetex 5 µm Core-Shell Technology. This core-shell particle was specifically developed for use on standard or older model HPLC systems that may have low pressure limitations.

GL Sciences Inertsil® 5 µm ODS-3



Phenomenex Kinetex 5 µm C18



Critical Advantages of Increased Resolution:

- Save time and money by adjusting method
- Separate critical pairs or difficult mixtures
- Less risk of failing system suitability requirements

Conditions for all columns:

Columns: Kinetex 5 µm C18
Inertsil ODS-3 5 µm C18
Dimensions: 250 x 4.6 mm
Mobile Phase: A: Water with 0.1 % TFA
B: Acetonitrile with 0.1 % TFA
Gradient:

Time (min)	% B
0	10
40	70

Flow Rate: 1.0 mL/min
Temperature: Ambient
Detection: UV @ 210 nm
Sample: Pharmaceutical degradation sample

Inertsil is a registered trademark of GL Sciences Inc. Phenomenex is not affiliated with GL Sciences Inc.
Comparative separations may not be representative of all applications.

First and Only Core-Shell Material for Axia™ Preparative Purifications

Axia packed Kinetex 5 µm columns will provide incredible gains in efficiency and performance for any of your Prep LC methods. Learn more online at:

www.phenomenex.com/kinetexprep

Core-Shell and Axia™ for Prep LC

KINETEX® Core-Shell Technology

Preparative Column Packing Technology

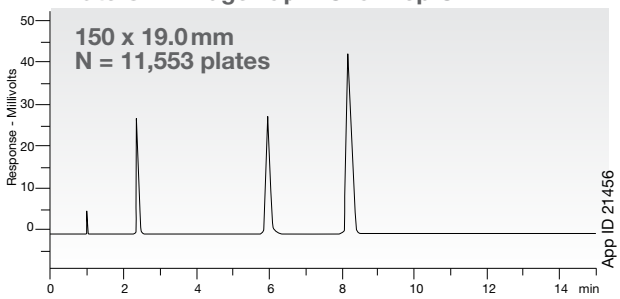
An advanced preparative column packing and hardware design, Axia incorporates patented Hydraulic Piston Compression technology that offers increased sorbent bed density and eliminates media bed collapse as a source of premature column failure in preparative HPLC columns. Unlike traditional column packing methods, the Axia packing method is completely automated and monitored by multiple sensors to allow for measurement and recording of all process parameters for every column. The result is a vastly improved packing process that offers the following benefits:

- Extended column lifetimes
- Improved reproducibility: Column-to-Column and Batch-to-Batch
- Efficiencies and peak symmetries on par with analytical separations
- Increased column stability under high flow rates

Higher Efficiency!

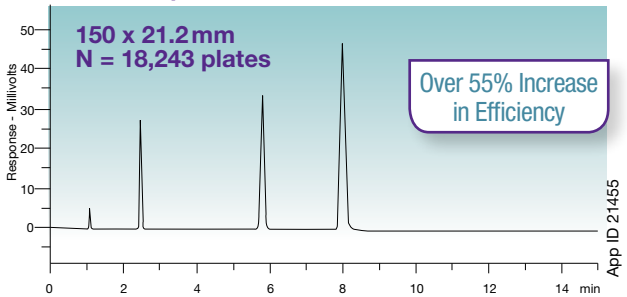
Start with sharper peaks by taking advantage of the high efficiencies of Kinetex 5 µm Axia preparative columns.

Waters® XBridge® 5 µm C18 Prep OBD™



Conditions for both columns:
Columns: Kinetex 5 µm XB-C18 Axia Packed
XBridge 5 µm C18 Prep OBD
Dimensions: 150 x 21.2 mm (Kinetex)
150 x 19 mm (XBridge)
Mobile Phase: Water/ Acetonitrile (50:50)
Injection Volume: 10 µL

Kinetex 5 µm XB-C18 Axia Packed



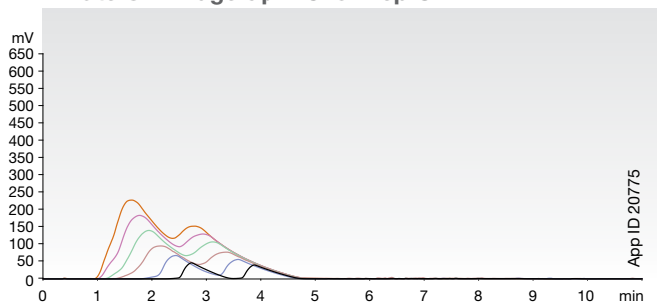
Flow Rate: 25 mL/ min
Temperature: Ambient
Detection: UV @ 254 nm
Sample: 1. Uracil
2. Acetophenone
3. Toluene
4. Naphthalene

AXIA™ Preparative Columns

Excellent Loadability!

With narrower peak widths than fully porous columns across every sample load, Axia packed Kinetex 5 µm columns give you the capability of increased sample load and higher throughput for vastly improved purification performance and economics.

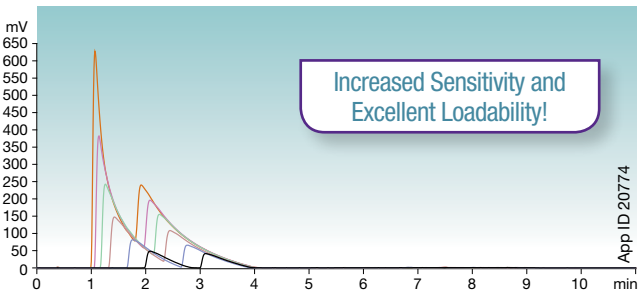
Waters XBridge 5 µm C18 Prep OBD



Conditions for both columns:
Columns: Kinetex 5 µm C18 Axia Packed
XBridge 5 µm C18 Prep OBD
Dimensions: 50 x 21.2 mm (Kinetex)
50 x 19 mm (XBridge)
Mobile Phase: A: Water with 0.5 % Formic acid
B: Acetonitrile with 0.5 % Formic acid
Gradient:

Time (min)	% B
0	20
8	50
11	50

Kinetex 5 µm C18 Axia Packed

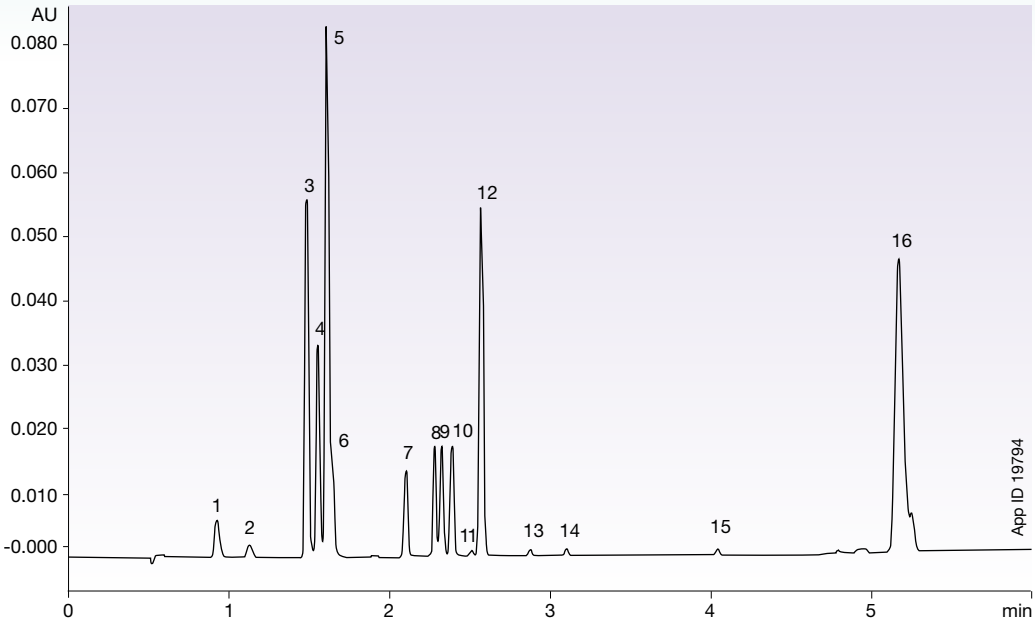


Flow Rate: 30 mL/min
Temperature: Ambient
Detection: UV @ 254 nm
Sample: 200 mg/mL in DMSO
1. Doxepin (From 1 - 500 mg on-column)
2. Amitriptyline (From 1 - 500 mg on-column)

Significant Cost Savings with Kinetex Core-Shell Columns

KINETEX® Core-Shell Technology

Reduce Runtimes, Increase Productivity, and Cut Costs Today



Column: Kinetex 1.7 µm C18
Dimensions: 100 x 2.1 mm
Part No.: 00D-4475-AN
Mobile Phase: A: 5 mM Ammonium formate pH 3.25 / Acetonitrile (95:5)
B: 5 mM Ammonium formate pH 3.25 / Acetonitrile (10:90)

Gradient:

Time (min)	% B
0	30
1.5	50
3	56.3
5	95
6	95
6.1	30

Flow Rate: 0.4 mL/min
Temperature: 50 °C
Detection: PDA 210-300 nm, extracted channel 280 nm
Instrument: Waters® ACQUITY® equipped with PDA

Sample:
1. Antidepressant drug (containing an HCl salt)
2. Hormone therapy #1 (containing a salt)
3. SERM drug (containing basic functional group)
4. CNS drug (containing basic functional group)
5. PPI drug (containing basic functional group)
6. CNS drug (containing basic functional group)
7. CNS drug (containing basic functional group)
8. Hormone therapy #2 (neutral)
9. Oral contraceptive hormone #1 (neutral)
10. Hormone therapy #3 (neutral)
11. Oral contraceptive hormone #2 (neutral)
12. Hormone therapy #4 (neutral)
13. Oral contraceptive hormone (neutral)
14. Hormone therapy #5 (neutral)
15. Hormone therapy #6 (acetate salt of 14)
16. Immunosuppressant drug (macromolecule, containing basic functional group)

> It has been shown that the **1.7 µm Kinetex 100 x 2.1 mm column** was capable of resolving 16 different chemical entities with a 6 minute run time. This new analytical method will be used to replace 16 older methods thereby facilitating an **annualised cost saving for the site of €320,000 ($346,000 USD).**
>
> **A. Charles, et. al., Pfizer Grange Castle, Grange Castle Business Park, Clondalkin, Dublin Republic of Ireland**

Core-Shell Fits Your System

KINETEX® Core-Shell Technology

Typical UHPLC Instrumentation

Kinetex on Agilent® 1290

Kinetex on JASCO® X-LC

Kinetex on Shimadzu® Nexera®

Kinetex on Waters® ACQUITY® UPLC®

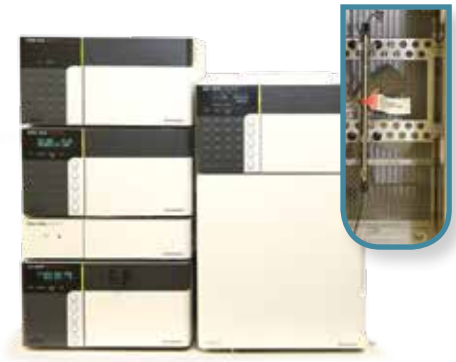
Core-Shell Fits Your System

KINETEX® Core-Shell Technology

Typical HPLC Instrumentation

Kinetex on Agilent® 1100

Kinetex on Shimadzu® Prominence® LC-20A



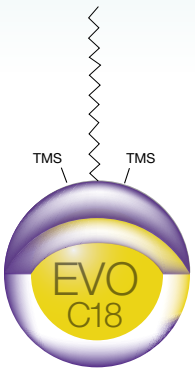
Kinetex on Waters® Alliance®

Kinetex on Gilson® HPLC

Selectivity - The Phases

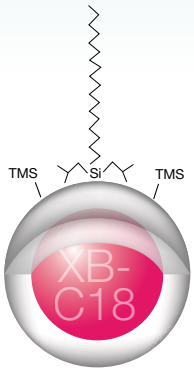
KINETEX Core-Shell Technology

Kinetex EVO C18



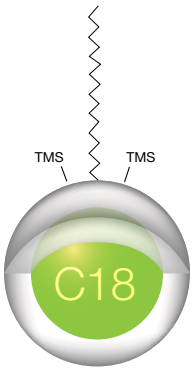
Available in: 1.7 µm, 2.6 µm and 5 µm
Novel pH 1-12 stable C18 that delivers robust methods and improved peak shape for bases.

Kinetex XB-C18



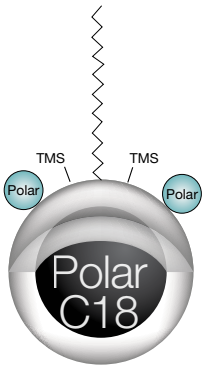
Available in: 1.7 µm, 2.6 µm, 3.5 µm and 5 µm
This unique C18 phase yields increased hydrogen bonding with hydrophobic selectivity, resulting in improved peak shape for basic compounds and increased retention of acidic compounds.

Kinetex C18



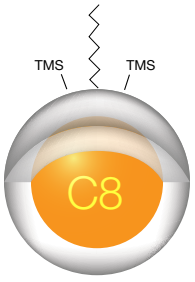
Available in: 1.3 µm, 1.7 µm, 2.6 µm and 5 µm
Balanced C18 phase that provides the highest degree of hydrophobic selectivity relative to the other Kinetex phases.

Kinetex Polar C18



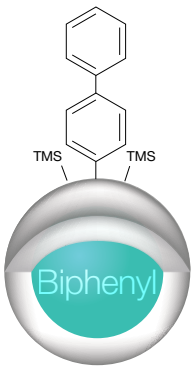
Available in: 2.6 µm
Combined C18 and polar modified surface that provide polar and non-polar retention alongside 100% aqueous stability

Kinetex C8



Available in: 1.7 µm, 2.6 µm and 5 µm
Moderate hydrophobic and steric selectivity is offered, bringing ultra-high performance to USP L7 and other octyl silane methods.

Kinetex Biphenyl

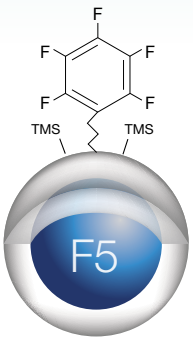


Available in: 1.7 µm, 2.6 µm and 5 µm
100 % aqueous stable reversed phase chemistry with hydrophobic, aromatic, and enhanced polar selectivity.

Selectivity - The Phases

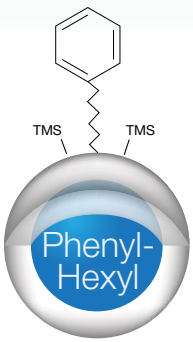
KINETEX® Core-Shell Technology

Kinetex F5



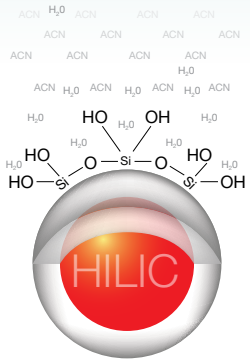
Available in: 1.7 µm, 2.6 µm, and 5 µm
Highly reproducible pentafluorophenyl phase exceptional for halogenated, conjugated, isomeric, or highly polar compounds.

Kinetex Phenyl-Hexyl



Available in: 1.7 µm, 2.6 µm and 5 µm
Aromatic and moderate hydrophobic selectivity result in the great retention and separation of aromatic hydrocarbons.

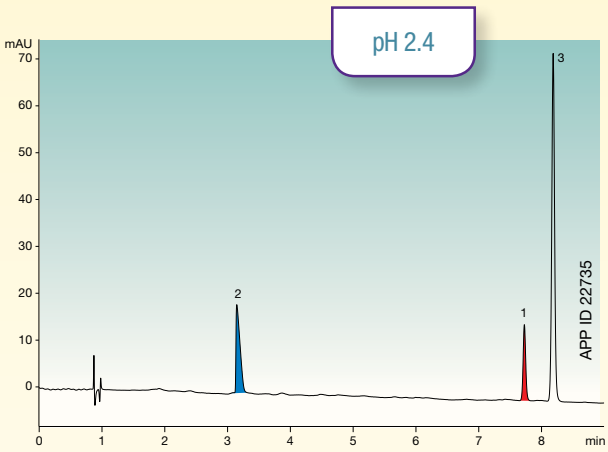
Kinetex HILIC



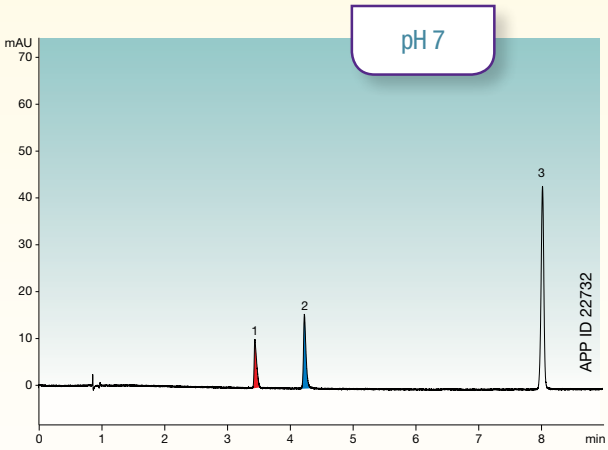
Available in: 1.7 µm, 2.6 µm and 5 µm
Used under HILIC running conditions, this phase provides the highest polar selectivity for retention and separation of hydrophilic compounds.

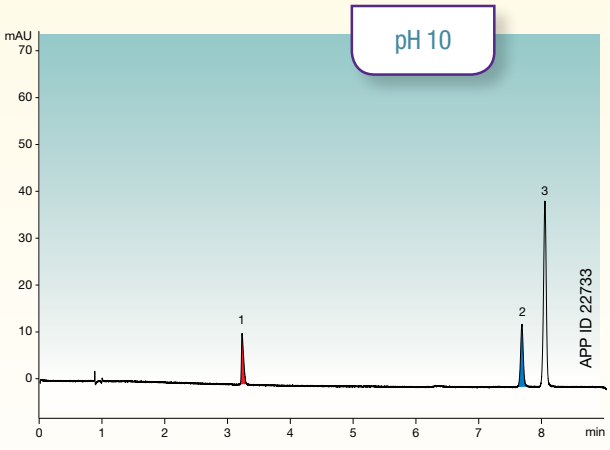
pH Selectivity

With excellent performance across a large pH range, **Kinetex EVO C18** columns allow you to transform chromatograms and manipulate retention order, no matter the combination of compound functionalities. Now is your chance to break the mold and let your creative LC side flourish.



Column: Kinetex 5 µm EVO C18
Dimensions: 150 x 4.6 mm
Part No.: 00F-4633-E0
Mobile Phase: A: 20 mM Potassium phosphate
B: Acetonitrile
Gradient: 20-75 % B in 10 minutes
Flow Rate: 1.5 mL/min
Temperature: 30 °C
Detection: UV @ 254 nm
Sample: 1. Ibuprofen
2. Diphenhydramine
3. Ethyl Benzene



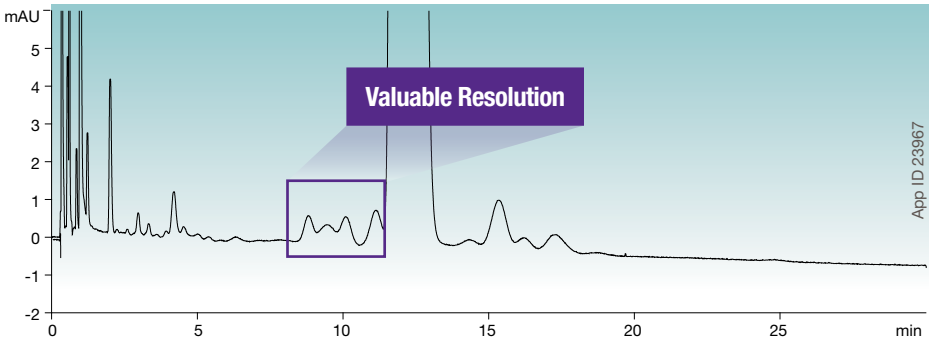


Selectivity – Polar C18

KINETEX® Core-Shell Technology

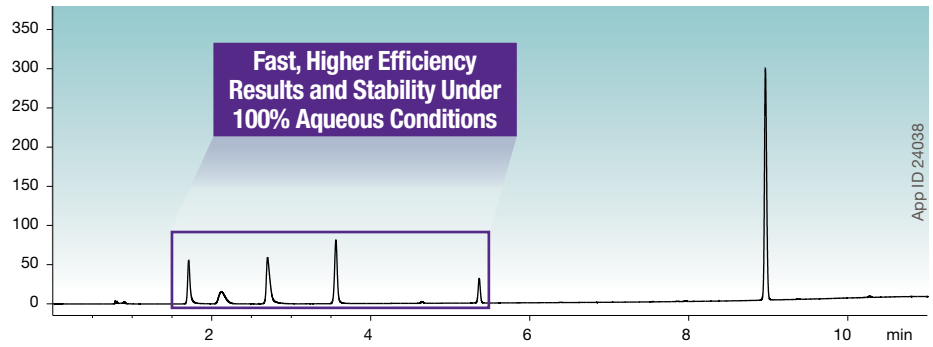
The Kinetex Polar C18 contains a C18 ligand alongside a polar modified surface that increases polar compound retention and improves resolution values. Additionally, the advanced proprietary bonding technology used with this phase ensures 100 % aqueous stability as well as balanced retention on non-polar compounds. This is an excellent all purpose phase for use with multi compound mixes that contain polar and nonpolar compounds, or even single class methods that have closely related compounds, impurities or metabolites.

UHPLC Analysis of Cyclosporine and Impurities



Column: Kinetex 2.6 µm Polar C18
Dimensions: 50 x 2.1 mm
Part No.: 00B-4759-AN
Mobile Phase: Acetonitrile/Tert-butyl methyl ether/Water/Phosphoric acid (430:50:520:1)
Flow Rate: 0.30 mL/min
Temperature: 80 ˚C
Detection: UV @ 210 nm
Sample: Cyclosporine

Water Soluble Vitamins



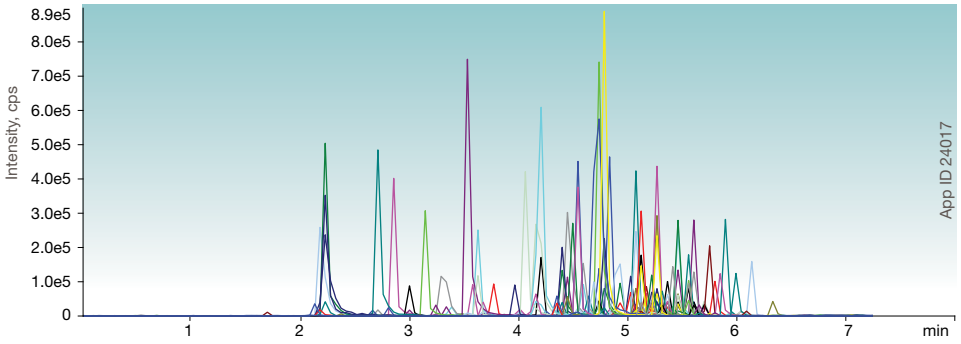
Column: Kinetex 2.6 µm Polar C18
Dimensions: 100 x 4.6 mm
Part No.: 00B-4759-E0
Mobile Phase: A: 20 mM Potassium Phosphate
B: Methanol

Gradient:

Time (min)	% B
0	0
1	0
10	60

Flow Rate: 1.2 mL/min
Temperature: Ambient
Detection: UV @ 210 nm
Sample:
1. Thiamine
2. Nicotinamide
3. Pyridoxal
4. Pyridoxine
5. Pantothenic Acid
6. Riboflavin

Multi-Class 206 Pesticide Panel Screen



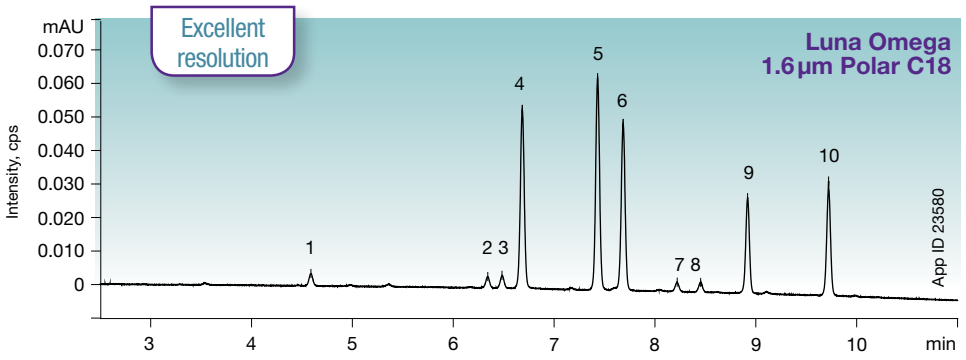
Column: Kinetex 2.6 µm Polar C18
Dimension: 50 x 4.6 mm
Part No.: 00B-4759-E0
Mobile Phase: A: Water
B: 0.1 % Formic Acid in Methanol
Gradient: 5-100 % B in 5 min, hold 1 min
Flow Rate: 0.7 mL/min
Temperature: Ambient
Detection: MS/MS (SCIEX API 4000™)
Sample: 206 Pesticides.
Find the full compound list online at www.phenomenex.com/Application/Detail/24017

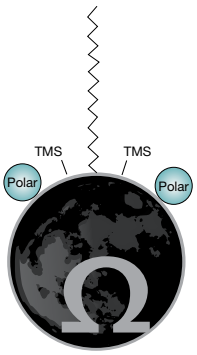
Selectivity – Combine Kinetex and Luna® Omega

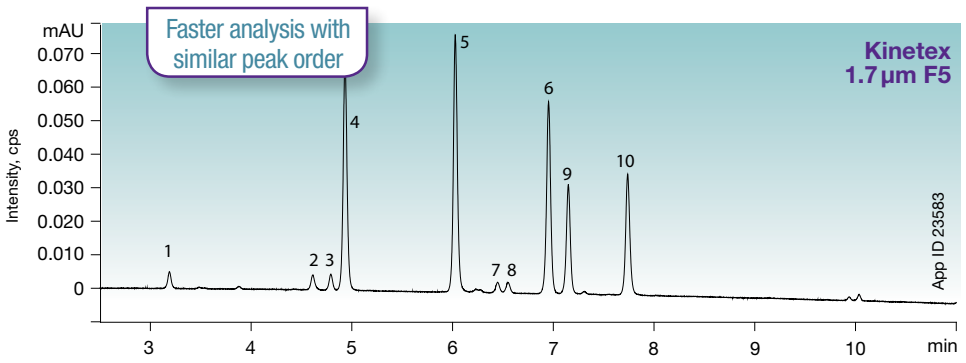
KINETEX® Core-Shell Technology

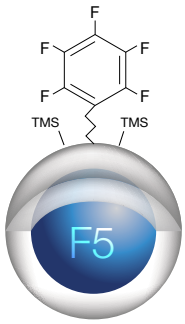
Combine the available Kinetex core-shell and Luna Omega fully porous stationary phases to expand your chromtography reach no matter whether you are working with UHPLC, HPLC, or Preparative instrumentation. The Polar C18 selectivity offers balanced polar/non-polar retention, while the Biphenyl and F5 offer excellent orthogonal alternatives to help adjust retention times and peak order.

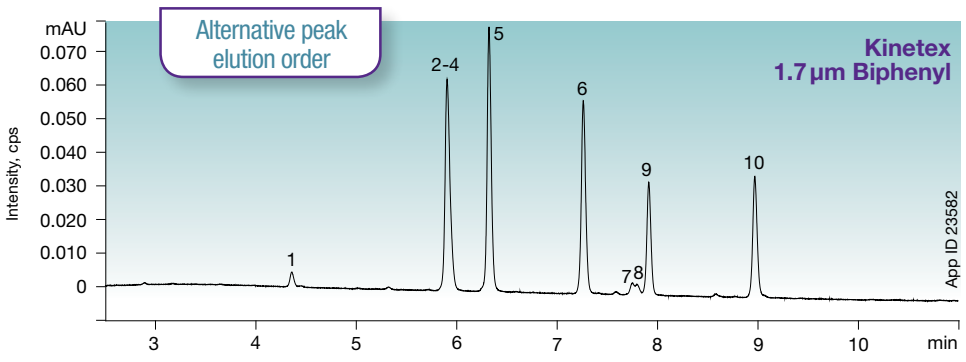
Natural Cannabinoids

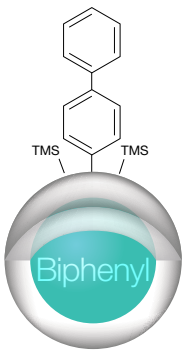












Conditions for all columns:

Columns: Luna Omega 1.6 µm Polar C18
Kinetex 1.7 µm Biphenyl
Kinetex 1.7 µm F5

Dimension: 100 x 2.1 mm

Mobile Phase: A: 20 mM Ammonium Formate pH 3.2
B: Acetonitrile

Gradient:

Time (min)	% B
0	60
12	95
13	95
13.01	60
15	60

Flow Rate: 0.4 mL/min

Temperature: 40 °C

Detection: UV @ 256 nm

Sample:
1. CBDV
2. Cannabidiol
3. CBG
4. Cannabidolic Acid
5. CBG-A
6. Cannabinol
7. Delta 9 THC
8. Delta 8 THC
9. CBC
10. THCA-A

Method Development Flexibility

KINETEX® Core-Shell Technology

Recommended Selectivities If You're Working With:

Acids	Bases	Neutrals	Aromatics
C18 F5 Phenyl-Hexyl	EVO C18 XB-C18 Biphenyl Polar C18	C18 C8 Biphenyl	Biphenyl Phenyl-Hexyl F5

Acids, Bases, and Neutrals	Highly Polar Compounds	High pH	Isomers
Polar C18 Biphenyl EVO C18 F5	Polar C18 F5 Biphenyl HILIC	EVO C18	F5

Upgrading Your Fully Porous Methods:

Fully Porous 3 µm - 5 µm

Kinetex 5 µm – Drop-in for easy performance improvements with no backpressure increase

Kinetex 3.5 µm – Drop-in for easy performance improvements of pharmacopoeia methods

Kinetex 2.6 µm – Dramatically improve results with efficiency/peak capacity gains

Fully Porous sub-2 µm

Kinetex 2.6 µm – Get similar efficiencies at lower backpressure allowing for greater productivity gains

Kinetex 1.7 µm – Up to 20 % greater efficiencies resulting in drop-in improvements

Kinetex 1.3 µm – Incredible efficiency gains on high end UHPLC systems

Fully Porous Preparative LC

Kinetex 5 µm – Drop-in for easy performance improvement with no backpressure increase

Simple Selection of the Suitable Column

KINETEX® Core-Shell Technology

	5 µm	3.5 µm	2.6 µm	1.7 µm	1.3 µm
UHPLC			■	■	■
HPLC		■	■	■	
PREP LC	■	■			

Phase	Best Use	pH Stability	Available Particle Size(s)				
Polar C18	C18 provides all purpose non-polar interactions, while novel polar modified surface increases polar compound retention and provides 100% aqueous stability.	1.5 - 8.5*			2.6 µm		
EVO C18	Robust reversed phase methods even in alkaline conditions with improved peak shape for polar basic compounds	1 - 12	5 µm		2.6 µm	1.7 µm	
C18	All purpose phase that offers the hydrophobic retention and methylene selectivity chromatographers expect from a C18 column	1.5 - 8.5*	5 µm		2.6 µm	1.7 µm	1.3 µm
XB-C18	C18 phase with protective butyl side chains for improved peak shape for basic compounds under neutral and acidic conditions	1.5 - 8.5*	5 µm	3.5 µm	2.6 µm	1.7 µm	
C8	USP L7 phase that provides less hydrophobic and methylene selectivity than a C18	1.5 - 8.5*	5 µm		2.6 µm	1.7 µm	
F5	Highly reproducible pentafluorophenyl propyl phase that offers a unique combination of polar, hydrophobic, aromatic, and shape selectivity	1.5 - 8.5	5 µm		2.6 µm	1.7 µm	
Biphenyl	100% aqueous stable and allows for excellent reversed phase retention and enhanced polar and aromatic selectivity	1.5 - 8.5*	5 µm		2.6 µm	1.7 µm	
Phenyl-Hexyl	Reversed phase chemistry that allows for greater retention and separation of aromatic hydrocarbons	1.5 - 8.5*	5 µm		2.6 µm	1.7 µm	
HILIC	Unbonded silica phase for HILIC conditions to provide selectivity for polar compounds	2.0 - 7.5	5 µm		2.6 µm	1.7 µm	

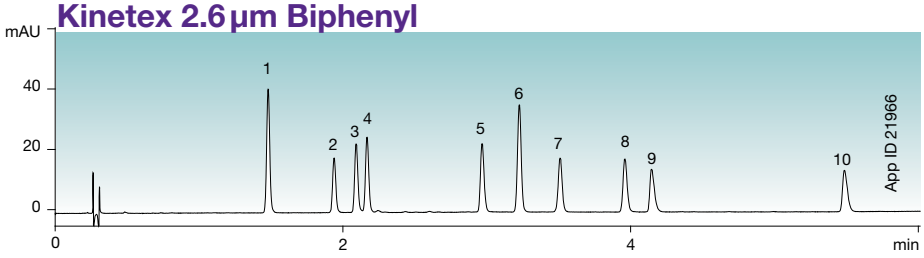
*pH stability under gradient conditions. pH stability is 1.5-10 under isocratic conditions.

Choose from an extensive selection of phases for greater flexibility in UHPLC/HPLC method development. Kinetex columns come in a variety of stationary phases to cover a full spectrum of applications ranging from acids and bases, to isomers and extremely polar compounds.

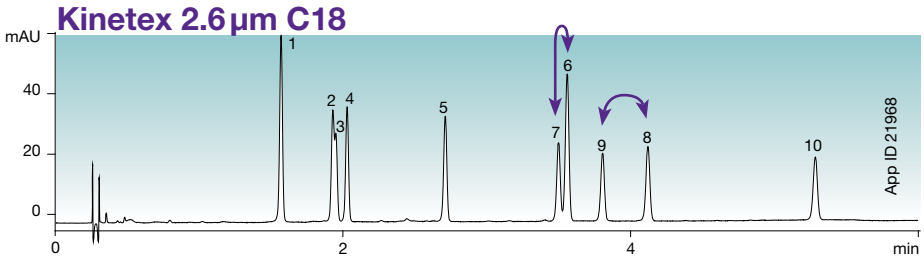
Conditions for all columns:

Column: Kinetex 2.6 µm Biphenyl
Kinetex 2.6 µm C18
Kinetex 2.6 µm XB-C18
Kinetex 2.6 µm Phenyl-Hexyl
Dimensions: 50 x 4.6 mm
Mobile Phase: A:Water
B: Acetonitrile
Gradient: 20 to 60 % B in 6 minutes
Flow Rate: 1.85 mL/min
Temperature: 30 °C
Detection: UV @ 220 nm
Samples:
1. Estriol
2. Hydrocortisone
3. Prednisone
4. Cortisone
5. Corticosterone
6. β-Estradiol
7. Cortisone Acetate
8. 17-Hydroxyprogesterone
9. 21-Hydroxyprogesterone
10. Deoxycorticosterone

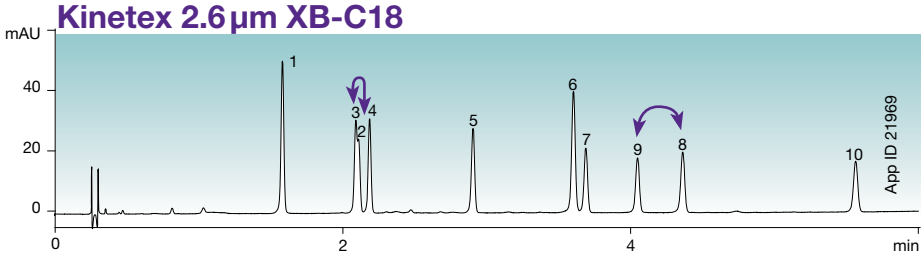
Kinetex 2.6 µm Biphenyl



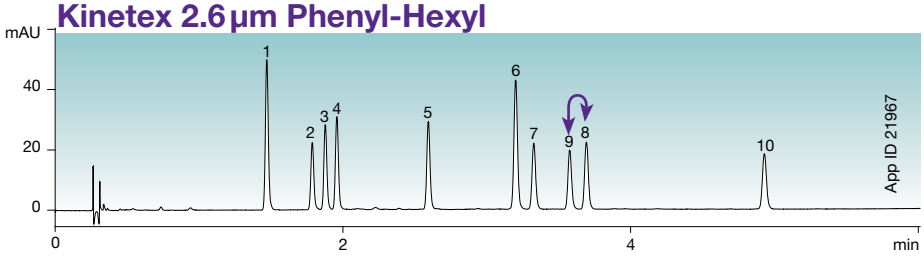
Kinetex 2.6 µm C18



Kinetex 2.6 µm XB-C18



Kinetex 2.6 µm Phenyl-Hexyl

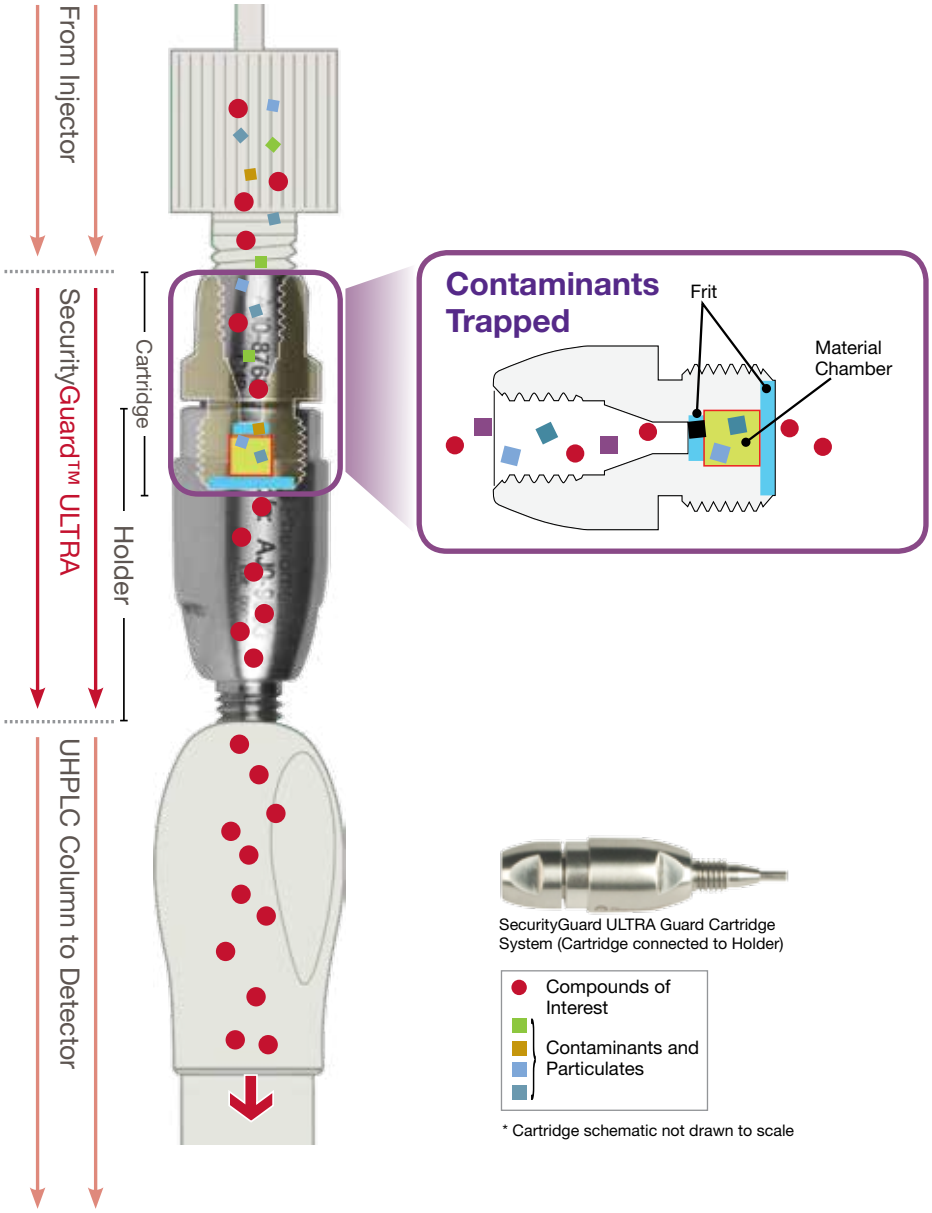


Protect Any UHPLC Column

SecurityGuard™ ULTRA
UHPLC Column Protection

Protect your UHPLC column, including Kinetex® core-shell columns, from damaging contaminants and microparticulates with the SecurityGuard ULTRA guard cartridge system!

- Simple to use
- Extend column lifetime
- Pressure rated to 20,000 psi (1,378 bar)
- Fits virtually all manufacturers' columns 2.1 to 4.6 mm ID



See it in action:
www.phenomenex.com/SecurityGuardULTRA

Ordering Infromation

KINETEX Core-Shell Technology

5 µm Minibore Columns (mm)					SecurityGuard™ ULTRA Cartridges‡
Phases	30 x 2.1	50 x 2.1	100 x 2.1	150 x 2.1	3/pk
EVO C18	00A-4633-AN	00B-4633-AN	00D-4633-AN	00F-4633-AN	AJ0-9298
F5	00A-4724-AN	00B-4724-AN	00D-4724-AN	00F-4724-AN	AJ0-9322
Biphenyl	00A-4627-AN	00B-4627-AN	00D-4627-AN	—	AJ0-9209
XB-C18	00A-4605-AN	00B-4605-AN	00D-4605-AN	—	AJ0-8782
C18	00A-4601-AN	00B-4601-AN	00D-4601-AN	00F-4601-AN	AJ0-8782
C8	—	00B-4608-AN	00D-4608-AN	—	AJ0-8784
Phenyl-Hexyl	—	00B-4603-AN	00D-4603-AN	—	AJ0-8788
					for 2.1 mm ID

5 µm MidBore™ Columns (mm)				SecurityGuard ULTRA Cartridges‡
Phases	50 x 3.0	100 x 3.0	150 x 3.0	3/pk
EVO C18	00B-4633-Y0	00D-4633-Y0	00F-4633-Y0	AJ0-9297
F5	00B-4724-Y0	00D-4724-Y0	00F-4724-Y0	AJ0-9321
Biphenyl	00B-4627-Y0	00D-4627-Y0	00F-4627-Y0	AJ0-9208
XB-C18	00B-4605-Y0	00D-4605-Y0	00F-4605-Y0	AJ0-8775
C18	00B-4601-Y0	00D-4601-Y0	00F-4601-Y0	AJ0-8775
C8	00B-4608-Y0	00D-4608-Y0	—	AJ0-8777
Phenyl-Hexyl	00B-4603-Y0	00D-4603-Y0	—	AJ0-8781
				for 3.0 mm ID

5 µm Analytical Columns (mm)					SecurityGuard ULTRA Cartridges‡
Phases	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6	3/pk
EVO C18	00B-4633-E0	00D-4633-E0	00F-4633-E0	00G-4633-E0	AJ0-9296
F5	00B-4724-E0	00D-4724-E0	00F-4724-E0	00G-4724-E0	AJ0-9320
Biphenyl	00B-4627-E0	00D-4627-E0	00F-4627-E0	00G-4627-E0	AJ0-9207
XB-C18	00B-4605-E0	00D-4605-E0	00F-4605-E0	00G-4605-E0	AJ0-8768
C18	00B-4601-E0	00D-4601-E0	00F-4601-E0	00G-4601-E0	AJ0-8768
C8	00B-4608-E0	00D-4608-E0	00F-4608-E0	00G-4608-E0	AJ0-8770
Phenyl-Hexyl	00B-4603-E0	00D-4603-E0	00F-4603-E0	00G-4603-E0	AJ0-8774
					for 4.6 mm ID

5 µm Semi-Preparative Columns (mm)			SecurityGuard SemiPrep Cartridges***
Phases	150 x 10	250 x 10	10 x 10
			/3pk
EVO C18	00F-4633-N0	00G-4633-N0	AJ0-9306
			/3pk
F5	—	00G-4724-N0	AJ0-9323
C18	00F-4601-N0	00G-4601-N0	AJ0-9278
Biphenyl	00F-4627-N0	00G-4627-N0	AJ0-9280
			for 10 mm ID

5 µm Axia™ Packed Preparative Columns (mm)					SecurityGuard PREP Cartridges*
Phases	50 x 21.2	100 x 21.2	150 x 21.2	250 x 21.2	15 x 21.2
					/ea
EVO C18	00B-4633-P0-AX	00D-4633-P0-AX	00F-4633-P0-AX	00G-4633-P0-AX	AJ0-9304
					/ea
F5	—	—	00F-4724-P0-AX	00G-4724-P0-AX	AJ0-9324
Biphenyl	00B-4627-P0-AX	00D-4627-P0-AX	00F-4627-P0-AX	00G-4627-P0-AX	AJ0-9272
XB-C18	00B-4605-P0-AX	00D-4605-P0-AX	00F-4605-P0-AX	00G-4605-P0-AX	AJ0-9145
C18	00B-4601-P0-AX	00D-4601-P0-AX	00F-4601-P0-AX	00G-4601-P0-AX	AJ0-9145
C8	00B-4608-P0-AX	00D-4608-P0-AX	00F-4608-P0-AX	00G-4608-P0-AX	AJ0-9205
Phenyl-Hexyl	00B-4603-P0-AX	00D-4603-P0-AX	00F-4603-P0-AX	00G-4603-P0-AX	AJ0-9147
HILIC	—	00D-4606-P0-AX	00F-4606-P0-AX	00G-4606-P0-AX	AJ0-9277
					for 21.2 mm ID

‡ SecurityGuard ULTRA Cartridges require holder, Part No.: AJ0-9000
* PREP SecurityGuard Cartridges require holder, Part No.: AJ0-8223
** PREP SecurityGuard Cartridges require holder, Part No.: AJ0-8277
*** SemiPrep SecurityGuard Cartridges require holder, Part No.: AJ0-9281

Ordering Infromation

KINETEX Core-Shell Technology

5 µm Axia Packed Preparative Columns (mm)					SecurityGuard PREP Cartridges**
Phases	50 x 30	100 x 30	150 x 30	250 x 30	15 x 30
					/ea
EVO C18	00B-4633-U0-AX	00D-4633-U0-AX	00F-4633-U0-AX	00G-4633-U0-AX	AJ0-9305
					/ea
F5	00B-4724-U0-AX	00D-4724-U0-AX	00F-4724-U0-AX	00G-4724-U0-AX	AJ0-9325
Biphenyl	—	—	00F-4627-U0-AX	—	AJ0-9273
XB-C18	00B-4605-U0-AX	00D-4605-U0-AX	00F-4605-U0-AX	00G-4605-U0-AX	AJ0-9204
C18	00B-4601-U0-AX	00D-4601-U0-AX	00F-4601-U0-AX	00G-4601-U0-AX	AJ0-9204
C8	00B-4608-U0-AX	00D-4608-U0-AX	00F-4608-U0-AX	00G-4608-U0-AX	AJ0-9217
Phenyl-Hexyl	00B-4603-U0-AX	00D-4603-U0-AX	00F-4603-U0-AX	00G-4603-U0-AX	AJ0-9216
					for 30 mm ID

3.5 µm Analytical Columns (mm)			SecurityGuard ULTRA Cartridges‡
Phases	100 x 4.6	150 x 4.6	3/pk
XB-C18	00D-4744-E0	00F-4744-E0	AJ0-8768
			for 4.6 mm ID

2.6 µm Microbore Columns (mm)			
Phases	50 x 1.0	100 x 1.0	150 x 1.0
XB-C18	00B-4496-A0	00D-4496-A0	00F-4496-A0

2.6 µm Minibore Columns (mm)						SecurityGuard™ ULTRA Cartridges‡
Phases	30 x 2.1	50 x 2.1	75 x 2.1	100 x 2.1	150 x 2.1	3/pk
EVO C18	00A-4725-AN	00B-4725-AN	—	00D-4725-AN	00F-4725-AN	AJ0-9298
Polar C18	00A-4759-AN	00B-4759-AN	—	00D-4759-AN	00F-4759-AN	AJ0-9530
F5	00A-4723-AN	00B-4723-AN	—	00D-4723-AN	00F-4723-AN	AJ0-9322
Biphenyl	00A-4622-AN	00B-4622-AN	—	00D-4622-AN	00F-4622-AN	AJ0-9209
XB-C18	00A-4496-AN	00B-4496-AN	00C-4496-AN	00D-4496-AN	00F-4496-AN	AJ0-8782
C18	00A-4462-AN	00B-4462-AN	00C-4462-AN	00D-4462-AN	00F-4462-AN	AJ0-8782
C8	00A-4497-AN	00B-4497-AN	00C-4497-AN	00D-4497-AN	00F-4497-AN	AJ0-8784
HILIC	00A-4461-AN	00B-4461-AN	00C-4461-AN	00D-4461-AN	00F-4461-AN	AJ0-8786
Phenyl-Hexyl	00A-4495-AN	00B-4495-AN	00C-4495-AN	00D-4495-AN	00F-4495-AN	AJ0-8788
						for 2.1 mm ID

2.6 µm MidBore™ Columns (mm)						SecurityGuard ULTRA Cartridges‡
Phases	30 x 3.0	50 x 3.0	75 x 3.0	100 x 3.0	150 x 3.0	3/pk
EVO C18	—	00B-4725-Y0	—	00D-4725-Y0	00F-4725-Y0	AJ0-9297
Polar C18	—	00B-4759-Y0	—	00D-4759-Y0	00F-4759-Y0	AJ0-9531
F5	—	00B-4723-Y0	—	00D-4723-Y0	00F-4723-Y0	AJ0-9321
Biphenyl	—	00B-4622-Y0	—	00D-4622-Y0	00F-4622-Y0	AJ0-9208
XB-C18	00A-4496-Y0	00B-4496-Y0	00C-4496-Y0	00D-4496-Y0	00F-4496-Y0	AJ0-8775
C18	00A-4462-Y0	00B-4462-Y0	00C-4462-Y0	00D-4462-Y0	00F-4462-Y0	AJ0-8775
C8	00A-4497-Y0	00B-4497-Y0	00C-4497-Y0	00D-4497-Y0	00F-4497-Y0	AJ0-8777
HILIC	00A-4461-Y0	—	—	—	00F-4461-Y0	AJ0-8779
Phenyl-Hexyl	—	00B-4495-Y0	—	00D-4495-Y0	00F-4495-Y0	AJ0-8781
						for 3.0 mm ID

‡ SecurityGuard ULTRA Cartridges require holder, Part No.: AJ0-9000
* PREP SecurityGuard Cartridges require holder, Part No.: AJ0-8223
** PREP SecurityGuard Cartridges require holder, Part No.: AJ0-8277
*** SemiPrep SecurityGuard Cartridges require holder, Part No.: AJ0-9281

Ordering Infromation

KINETEX® Core-Shell Technology

2.6 µm Analytical Columns (mm)						SecurityGuard ULTRA Cartridges‡
Phases	30 x 4.6	50 x 4.6	75 x 4.6	100 x 4.6	150 x 4.6	3/pk
EVO C18	—	00B-4725-E0	—	00D-4725-E0	00F-4725-E0	AJ0-9296
Polar C18	—	00B-4759-E0	—	00D-4759-E0	00F-4759-E0	AJ0-9532
F5	—	00B-4723-E0	—	00D-4723-E0	00F-4723-E0	AJ0-9320
Biphenyl	—	00B-4622-E0	—	00D-4622-E0	00F-4622-E0	AJ0-9207
XB-C18	—	00B-4496-E0	00C-4496-E0	00D-4496-E0	00F-4496-E0	AJ0-8768
C18	00A-4462-E0	00B-4462-E0	00C-4462-E0	00D-4462-E0	00F-4462-E0	AJ0-8768
C8	—	00B-4497-E0	00C-4497-E0	00D-4497-E0	00F-4497-E0	AJ0-8770
HILIC	—	00B-4461-E0	00C-4461-E0	00D-4461-E0	00F-4461-E0	AJ0-8772
Phenyl-Hexyl	—	00B-4495-E0	00C-4495-E0	00D-4495-E0	00F-4495-E0	AJ0-8774

for 4.6 mm ID

1.7 µm Minibore Columns (mm)					SecurityGuard ULTRA Cartridges‡
Phases	30 x 2.1	50 x 2.1	100 x 2.1	150 x 2.1	3/pk
EVO C18	—	00B-4726-AN	00D-4726-AN	00F-4726-AN	AJ0-9298
F5	—	00B-4722-AN	00D-4722-AN	00F-4722-AN	AJ0-9322
Biphenyl	—	00B-4628-AN	00D-4628-AN	00F-4628-AN	AJ0-9209
XB-C18	00A-4498-AN	00B-4498-AN	00D-4498-AN	00F-4498-AN	AJ0-8782
C18	00A-4475-AN	00B-4475-AN	00D-4475-AN	00F-4475-AN	AJ0-8782
C8	00A-4499-AN	00B-4499-AN	00D-4499-AN	00F-4499-AN	AJ0-8784
HILIC	00A-4474-AN	00B-4474-AN	00D-4474-AN	—	AJ0-8786
Phenyl-Hexyl	—	00B-4500-AN	00D-4500-AN	00F-4500-AN	AJ0-8788

for 2.1 mm ID

1.7 µm MidBore Columns (mm)				SecurityGuard ULTRA Cartridges‡
Phases	30 x 3.0	50 x 3.0	100 x 3.0	3/pk
XB-C18	00A-4498-Y0	00B-4498-Y0	00D-4498-Y0	AJ0-8775
C18	—	00B-4475-Y0	00D-4475-Y0	AJ0-8775
C8	00A-4499-Y0	00B-4499-Y0	00D-4499-Y0	AJ0-8777
HILIC	—	00B-4474-Y0	—	AJ0-8779

for 3.0 mm ID

1.3 µm Minibore Columns (mm)		
Phases	30 x 2.1	50 x 2.1
C18	00A-4515-AN	00B-4515-AN

‡ SecurityGuard ULTRA Cartridges require holder, Part No.: AJ0-9000.

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