Prep Columns
and Bulk Media

PREP COLUMNS AND BULK MEDIA

345 - 362

Axia™ Packed Preparative HPLC

guarantee

If Axia packed columns do not provide at least an equivalent separation as compared to a competing preparative column of the same particle size, same phase, and dimensions, return the column with comparative data within 45 days for a FULL REFUND. Only applies to 21.2 mm ID columns.

U.S. Patent No. 7, 674, 383

Axia
Preparative Chromatography Redefined

Axia™ patented technology is an advanced column packing and hardware design that eliminates media bed collapse as a source of premature failure in chiral and achiral preparative columns.

Axia Hydraulic Piston Compression

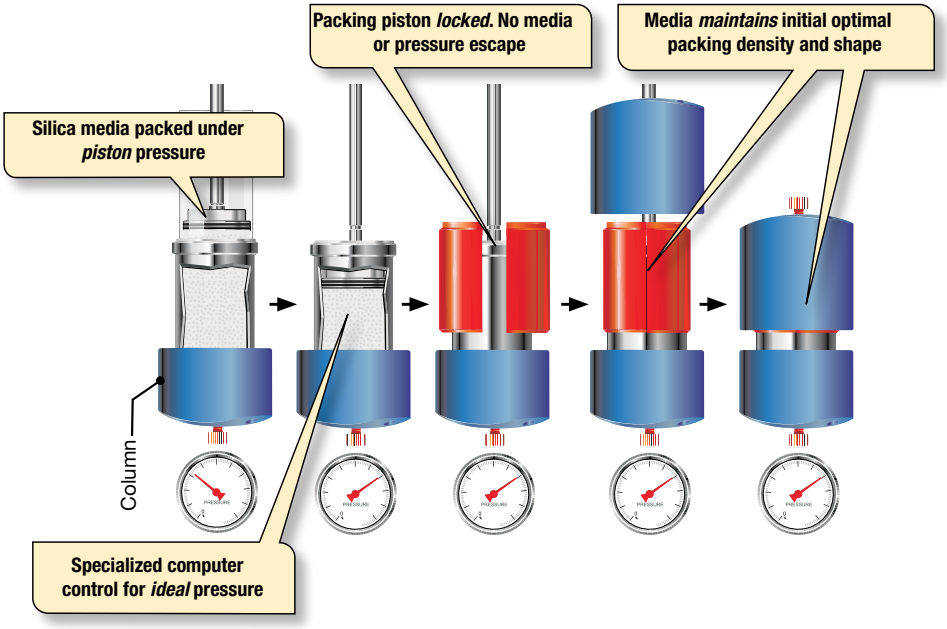
First ever integrated packing piston in a column allows:

- **The piston compresses the media bed and pressure is never released (no chance of media loss or recompression)**
- **The optimum slurry amount and packing pressure are automated for reproducible packing control**
- **Uniform packing density and consistent peak shape every time**

A complete departure from conventional slurry packing methods means:

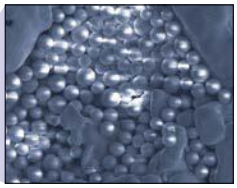
- **Longer lifetime with patented technology**
- **Improved column-to-column reproducibility**
- **Recover higher compound purity with analytical-like efficiency**

View the packing process @
www.AxiaPrep.com



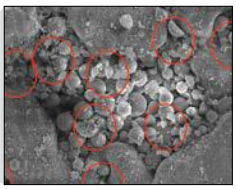
SEM of Inlet Frits After Packing

Axia Packed Media



Media is largely intact at frit surface after packing

Traditional Packed Media



Inlet frit shows crushed media particles or fines at frit surface after packing

Axia™ Packed Preparative HPLC

U.S. Patent No. 7, 674, 383

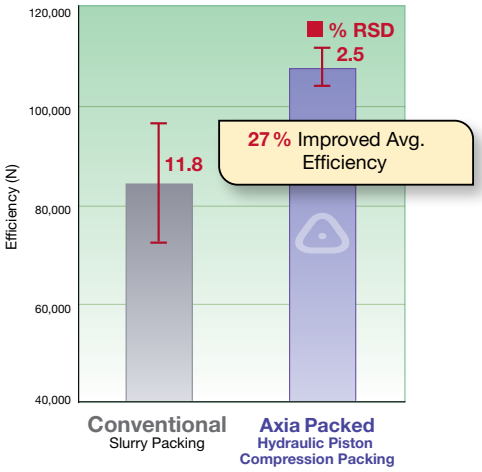
2006 R&D 100 Award Recipient

Expect Better Performance. Expect an Excellent Axia Column. Every Time.

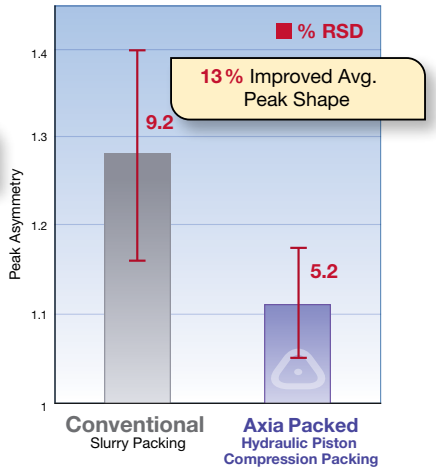
A completely automated packing system offers feedback control and infinite tuning of packing density to specific media characteristics such as mechanical strength and porosity. An optimum higher bed density can be consistently reproduced column-to-column. This directly translates into consistent efficiency and peak asymmetry measurements and decreases the column variability seen in traditionally packed preparative columns.

Consistent Quality. Column-to-Column. Batch-to-Batch

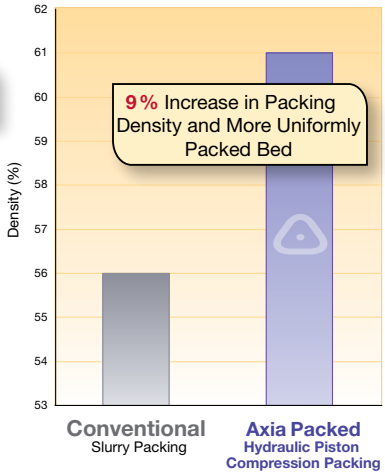
Reproducible Column-to-Column Efficiency
Average Efficiency (N) with Synergi 4 µm Hydro-RP 100 x 21.2 mm



Reproducible Column-to-Column Peak Asymmetry
Average Peak Asymmetry with Gemini 5 µm C18 50 x 21.2 mm

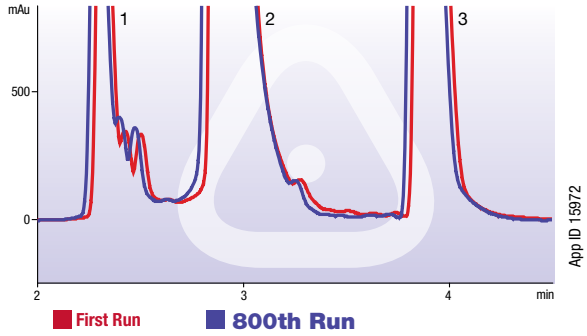


Density Comparison of Packed Beds



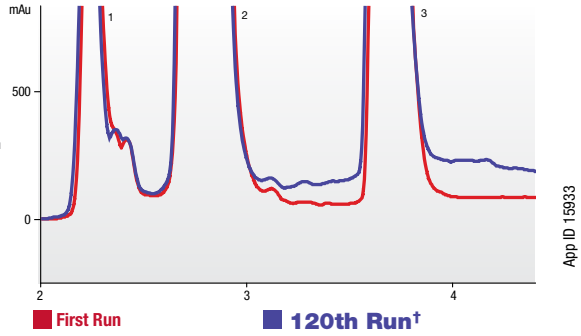
Compare Lifetime

Axia Packed
Luna 5 µm C18(2) Axia Packed



VS.

Leading Competitive Preparative Column
Waters® XTerra® 5 µm Prep MS C18 OBD™



† Six columns tested. Best lifetime chosen for comparison.

Conditions for all except where noted:

Columns: Luna 5 µm C18(2) Axia Packed
Waters® XTerra® 5 µm Prep MS C18 OBD™
Dimension: 50 x 21.2 mm (Luna)
50 x 19 mm (XTerra®)
Mobile Phase: A: 0.5 % TFA in Water B: 0.5 % TFA in Acetonitrile
Gradient: Linear 95:5 (A/B) to 5:95 (A/B) over 7 min, hold 3 min
Injection Volume: 500 µL

Flow Rate: 30 mL/min (Luna)
24 mL/min (XTerra®)‡
Temperature: Ambient
Detection: UV @ 254 nm
Sample: 1. Triprolidine 1.6 mg
2. Methacycline 16 mg
3. Amitriptyline 5.25 mg

‡Same linear velocity

Visit www.phenomenex.com/info/Axia to view the technology in action.

Comparative separations may not be representative of all applications.

Axia™ Packed Preparative HPLC

U.S. Patent No. 7, 674, 383

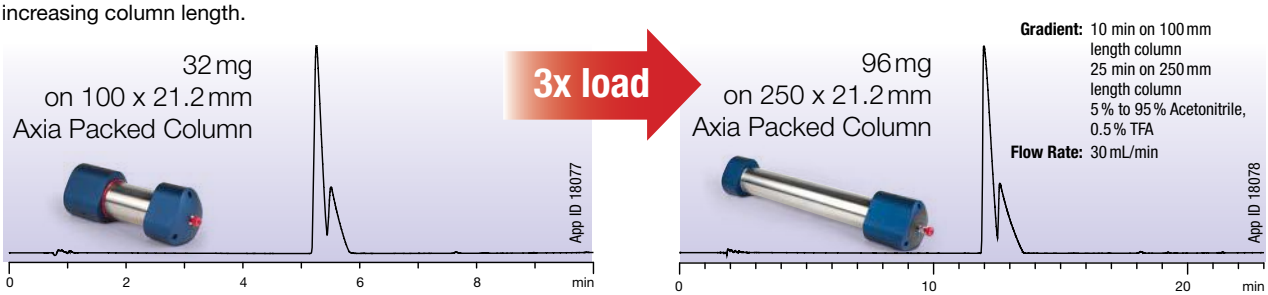
Seamless Scalability: 2 Options to Increase Sample Load

Option 1: Increase Column Length

Increase sample load without increasing your flow rate by using a longer column. With Axia technology, each preparative column is optimized for:

- **Analytical-like efficiency**
- **Long column lifetime**
- **High sample load with high-surface area media such as Gemini, Luna, or Synergi**

As a result, load generally increases as a direct proportion to column length. In this example the sample load *tripled* by increasing column length.

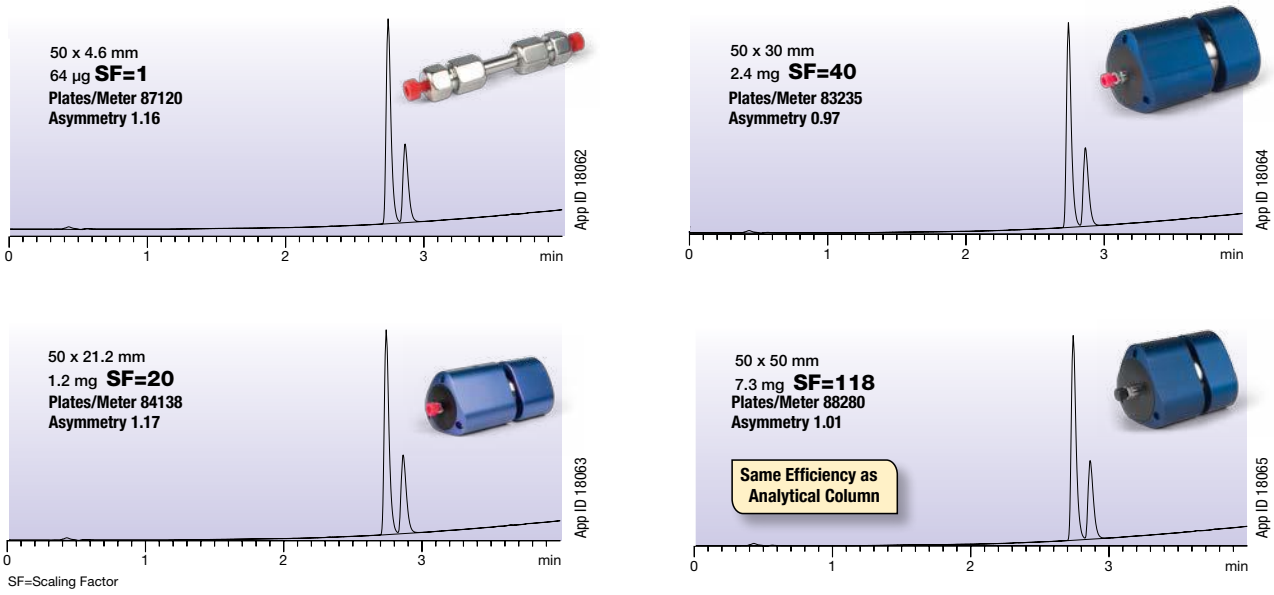


Option 2: Increase Column ID

For maximizing load without increasing the run time, consider scaling up to a larger column ID. Axia packed columns provide the three important benefits you need.

- **Reproducible performance across all column diameters**
- **Increased throughput without sacrificing purity**
- **High efficiency from analytical to preparative**

Columns: Luna 5 µm C18(2)
Gradient: 5 min, 5 % to 95 % Water/Acetonitrile, 0.5 % TFA
Flow Rate: 1.5 mL/min on 4.6 mm
30 mL/min on 21.2 mm
60 mL/min on 30 mm
150 mL/min on 50 mm
Detection: UV @ 254 nm
Sample: 1. Propranolol
2. Diphenhydramine



SF=Scaling Factor

Axia™ Packed Preparative HPLC

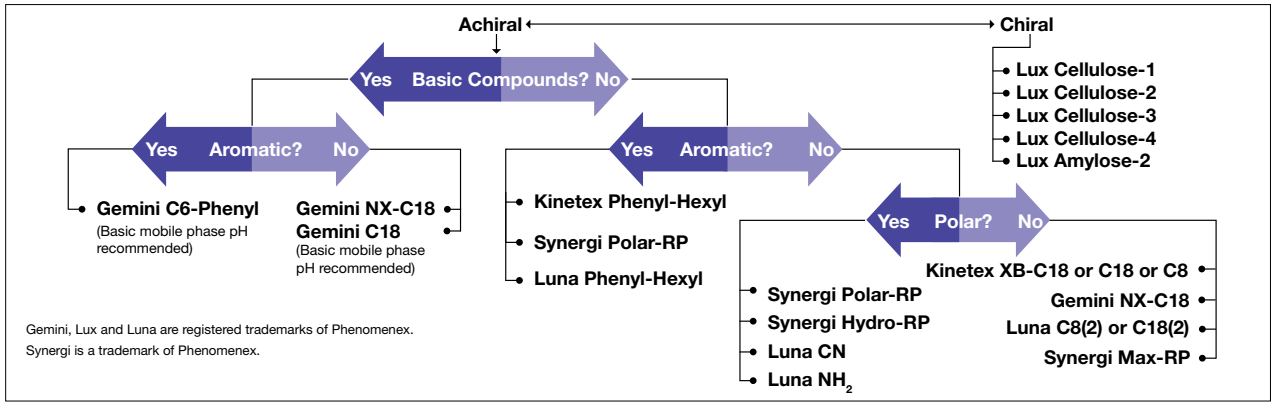
U.S. Patent No. 7, 674, 383

Selectivity Options

Stationary Phase Selectivity

With high surface areas, Phenomenex media—Gemini NX-C18 and Gemini (375 m^2/g), Luna (400 m^2/g) and Synergi (475 m^2/g)—maximize loading capabilities. Use the selection tree below to select the best media for your targeted purification.

Column Selection Tree



Gemini, Lux and Luna are registered trademarks of Phenomenex.
Synergi is a trademark of Phenomenex.

pH-LC™ Selectivity

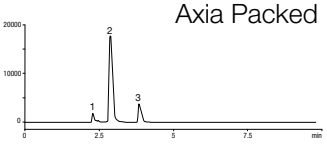
In reversed phase chromatography, compounds retain better when neutral. With the advent of pH stable (1-12) media such as Gemini NX-C18, Gemini C18 and C6-Phenyl, improving retention and resolution of basic compounds at high pH is now possible without compromising column lifetime. Under these conditions you can easily double or triple the loading compared to your current low pH purifications.

pH Selectivity

Low pH

Column: Luna 5 µm C18(2) Axia Packed
Dimensions: 50 x 21.2 mm
Part No.: 00B-4252-P0-AX
Mobile Phase: A: 0.5 % TFA in Water B: 0.5 % TFA in Acetonitrile
Gradient: Linear 95:5 (A/B) to 5:95 (A/B) over 7 min, hold 3 min
Injection Volume: 500 µL
Flow Rate: 30 mL/min
Detection: UV @ 254 nm
Sample: 1. Triprolidine 1.6 mg 2. Methacycline 16 mg 3. Amitriptyline 5.25 mg

Luna 5 µm C18(2)
Axia Packed

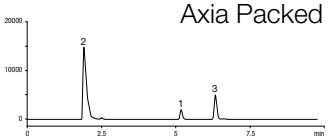


App ID 15928

High pH

Columns: Gemini 10 µm C18 Axia Packed
Dimensions: 50 x 21.2 mm
Part No.: 00B-4436-P0-AX
Mobile Phase: A: 95:5 50 mM Ammonium Bicarbonate, pH 10.0 / Acetonitrile B: 5:95 50 mM Ammonium Bicarbonate, pH 10.0 / Acetonitrile
Gradient: 7 min 100 % A to 100 % B over 7 min, equilibrate for 3 min
Injection Volume: 500 µL
Flow Rate: 30 mL/min
Detection: UV @ 254 nm
Sample: 1. Triprolidine 1.6 mg 2. Methacycline 16 mg 3. Amitriptyline 5.25 mg

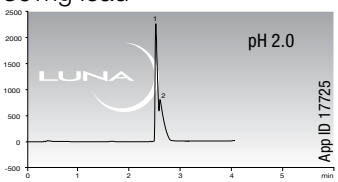
Gemini 10 µm C18
Axia Packed



App ID 15973

Increase Sample Load

30 mg load

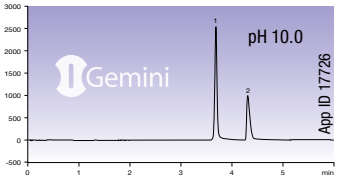


Low pH

Column: Luna 5 µm C18(2) Axia Packed
Dimensions: 50 x 21.2 mm
Part No.: 00B-4252-P0-AX
Mobile Phase: A: 0.5 % TFA in Water, pH 2.0 B: Acetonitrile
Gradient: 95:5 to 5:95 (A/B) over 4 minutes
Temperature: Ambient
Flow Rate: 30 mL/min
Detection: UV @ 254 nm
Sample: 1. Propranolol 2. Diphenhydramine

Increase pH for Basic Compounds

30 mg load

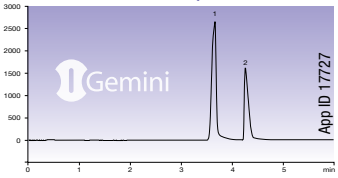


High pH

Column: Gemini 5 µm C18 Axia Packed
Dimensions: 50 x 21.2 mm
Part No.: 00B-4435-P0-AX
Mobile Phase: A: 50 mM Ammonium Bicarbonate, pH 10.0 B: Acetonitrile
Gradient: 95:5 to 5:95 (A/B) over 5 minutes
Temperature: Ambient
Flow Rate: 30 mL/min
Detection: UV @ 254 nm
Sample: 1. Propranolol 2. Diphenhydramine

Baseline Resolution for Higher Purity

60 mg load



Axia™ Packed Preparative HPLC

U.S. Patent No. 7, 674, 383

Chiral Media Packed in Axia Technology

Resolve 92 % of Your Enantiomers with Lux Chiral Preparative Columns*

Five Distinct Polysaccharide Phases to Screen:

Lux Cellulose-1: Dimethyl Cellulose Chiral Selector Cellulose tris (3, 5-dimethylphenylcarbamate)

Lux Cellulose-2: Chlorinated Cellulose Carbamate Phase Cellulose tris (3-chloro-4-methylphenylcarbamate)

Lux Cellulose-3: Cellulose Ester Chiral Selector Cellulose tris (4-methylbenzoate)

Lux Cellulose-4: Chlorinated Cellulose Carbamate Phase Cellulose tris (4-chloro-3-methylphenylcarbamate)

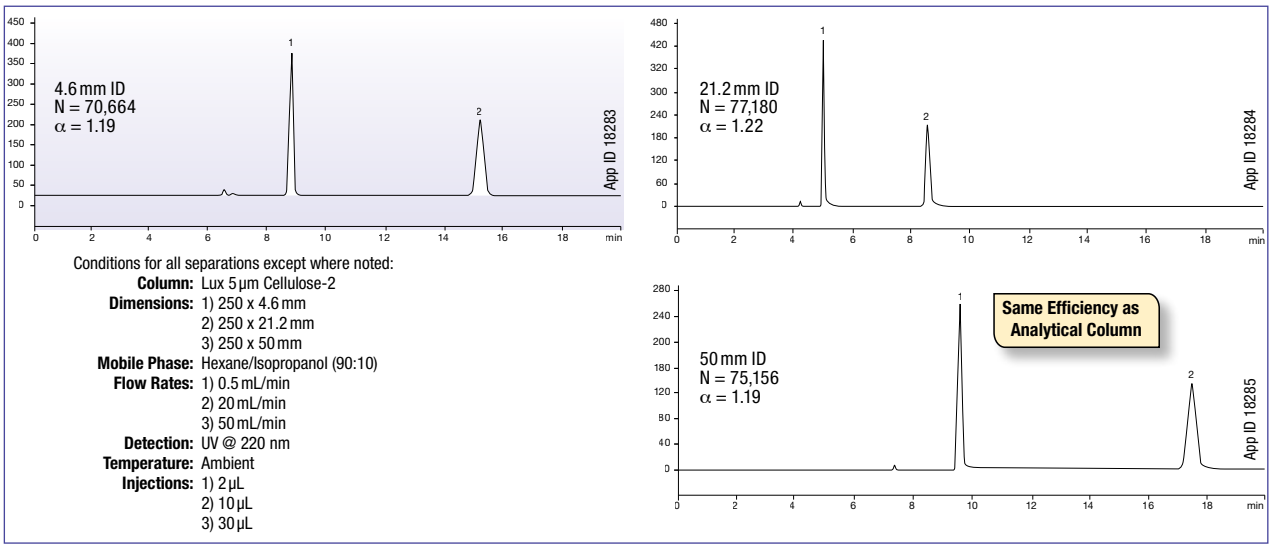
Lux Amylose-2: Chlorinated Amylose Chiral Selector Amylose tris (5-chloro-2-methylphenylcarbamate)

* based on screening 233 compounds on the five Lux phases
Availability in 3 µm and 5 µm packed columns as well as 20 µm bulk media for process scale purification
All Lux columns are pressure stable up to 300 bar and pH stable 2-9

Higher Purity Preparative Separations

With award-winning Axia technology, analytical-like efficiency is achieved in a preparative column format.

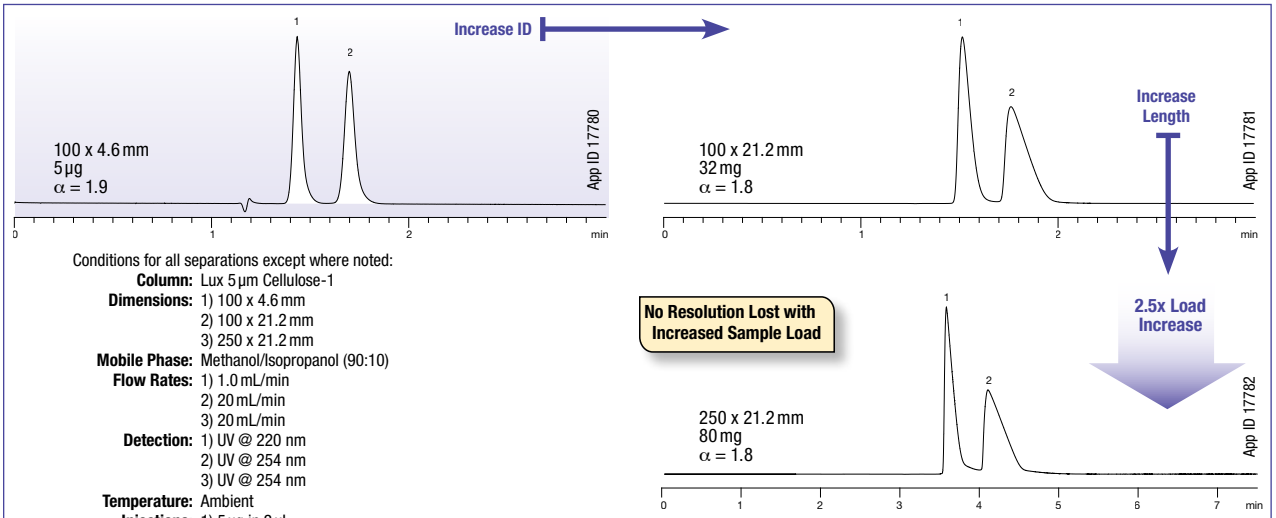
High Efficiency trans-Stilbene Oxide from Analytical to Preparative



Conditions for all separations except where noted:

Column: Lux 5 µm Cellulose-2
Dimensions: 1) 250 x 4.6 mm
2) 250 x 21.2 mm
3) 250 x 50 mm
Mobile Phase: Hexane/Isopropanol (90:10)
Flow Rates: 1) 0.5 mL/min
2) 20 mL/min
3) 50 mL/min
Detection: UV @ 220 nm
Temperature: Ambient
Injections: 1) 2 µL
2) 10 µL
3) 30 µL

Direct Scale Up of Methocarbamol on Lux Cellulose-1



Conditions for all separations except where noted:

Column: Lux 5 µm Cellulose-1
Dimensions: 1) 100 x 4.6 mm
2) 100 x 21.2 mm
3) 250 x 21.2 mm
Mobile Phase: Methanol/Isopropanol (90:10)
Flow Rates: 1) 1.0 mL/min
2) 20 mL/min
3) 20 mL/min
Detection: 1) UV @ 220 nm
2) UV @ 254 nm
3) UV @ 254 nm
Temperature: Ambient
Injections: 1) 5 µg in 2 µL
2) 32 mg in 640 µL
3) 80 mg in 1600 µL

Axia™ Packed Preparative HPLC

U.S. Patent No. 7, 674, 383

Axia: SFC Approved

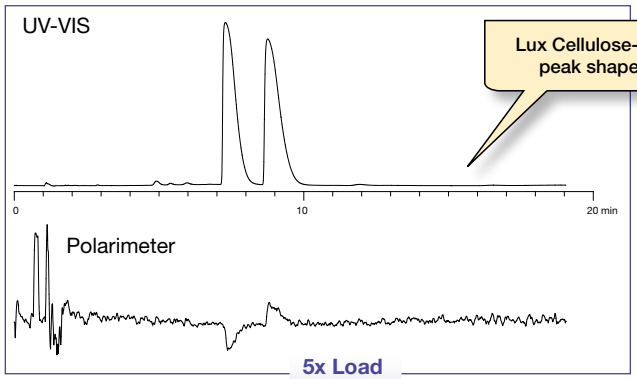
Complete SFC Screening

From analytical to Axia packed preparative achiral columns, Luna, Gemini, Synergi, and Lux chiral columns offer complementary selectivities, high efficiency, and pressure stability up to 300 bar (4300 psi) for SFC separations.

Seamless Scale Up from Laboratory, to Pilot Plant and Production.

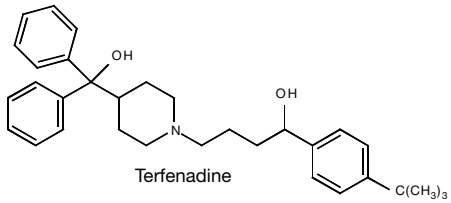
Increase column ID for higher loading and greater purification. Axia packed 21.2 and 30 mm diameter columns provide same purification capability and performance as the 4.6 mm analytical screening columns.

Baseline Separation of Enantiomers



Lux Cellulose-1 offers great peak shape at 220 nm

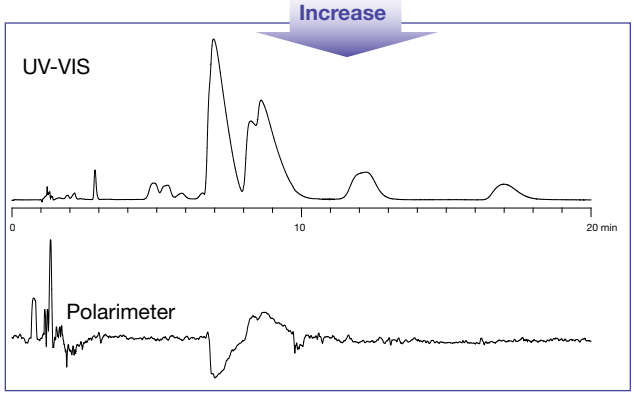
App ID 18865



Terfenadine

Dimensions: 250 x 4.6 mm
Flow Rate: 2.5 mL/min
Detection: UV @ 220 nm
Load: 300 µg in 10 µL

5x Load Increase



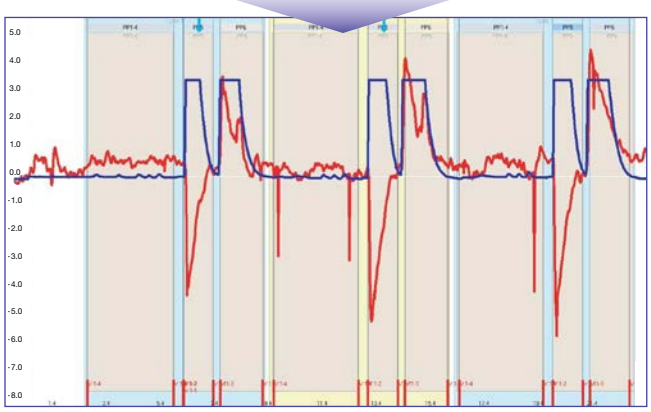
App ID 18866

Conditions for all columns:
Columns: Lux 5 µm Cellulose-1
Mobile Phase: Methanol with 0.1 % DEA/ Carbon Dioxide (25:75)
Column Temperature: 35 °C
Polarimeter: ALP-PDR-Chiral
Sample: Terfenadine with ethanol dissolution solvent

Dimensions: 250 x 4.6 mm
Flow Rate: 2.5 mL/min
Detection: UV @ 254 nm
Load: 1.5 mg in 50 µL

Overloading study with increased analytical load showing impurities eluting after major enantiomers only detected at 254 nm

70x Load Increase



High loading capacity media along with stacking injections allow for increased yields

Closer stacked injections can not be used due to the impurities eluting after the major enantiomers

App ID 18867

Dimensions: 250 x 21.2 mm
Flow Rate: 50 mL/min
Detection: UV @ 220 nm
Load: 105 mg in 3.5 mL

7.5 cycles per hr/ 787 mg per hr

For more SFC applications, see pp. 340-344

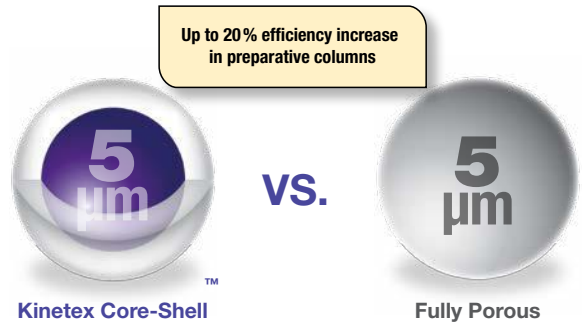
Axia™ Packed Preparative HPLC

U.S. Patent No. 7, 674, 383

First and Only Core-Shell Material for Preparative Purifications

Kinetex Axia Packed Preparative HPLC Columns

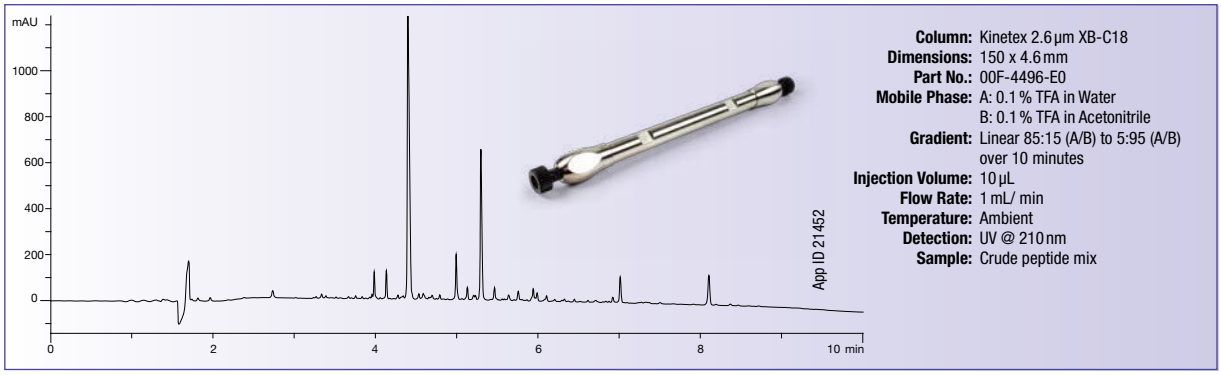
- **Core-shell performance in a preparative format**
- **Easy method scale-up from Kinetex analytical HPLC and UHPLC columns**
- **Reduce solvent consumption with faster purifications**



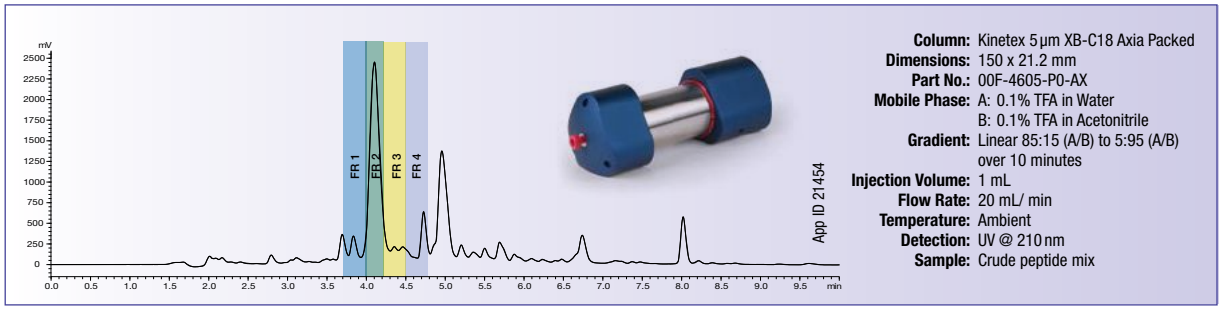
The recent addition of the Kinetex® 5 µm in the Axia packed format (21.2 mm ID) makes it the first core-shell sorbent commercially available for small-scale preparative applications. Combine this with the added flexibility that the entire Kinetex core-shell line (1.3 µm, 1.7 µm, 2.6 µm and 5 µm) is fully scalable in retention and selectivity, makes transferring high performance HPLC/UHPLC methods to preparative and SFC applications, simple.

Seamless Scalability from HPLC/UHPLC to PREP

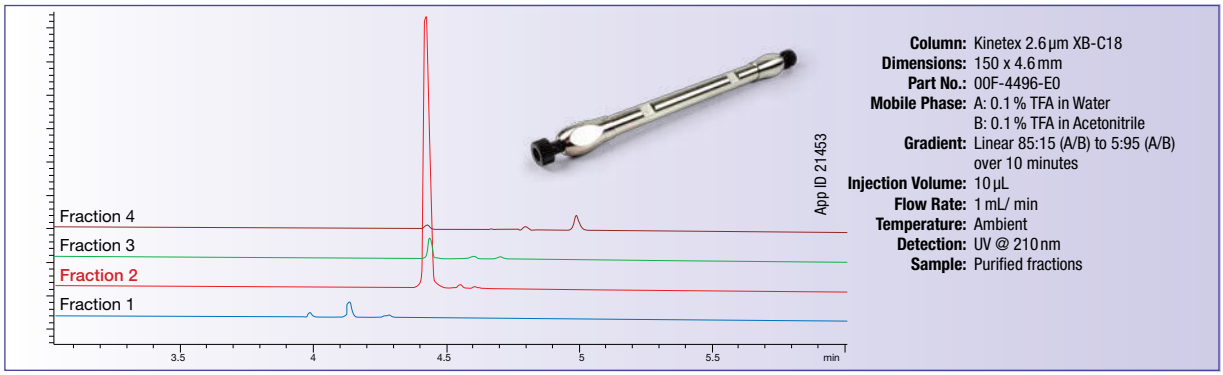
Analytical method — Kinetex 2.6 µm XB-C18



Preparative scale-up and fraction collection — Kinetex 5 µm XB-C18



Analytical fraction analysis — Kinetex 2.6 µm XB-C18



For more information on the power of Kinetex core-shell scalability, request technical note TN-1135 at: **www.phenomenex.com/Kinetex/AxiaRequest**

For more Kinetex information, see p. 199

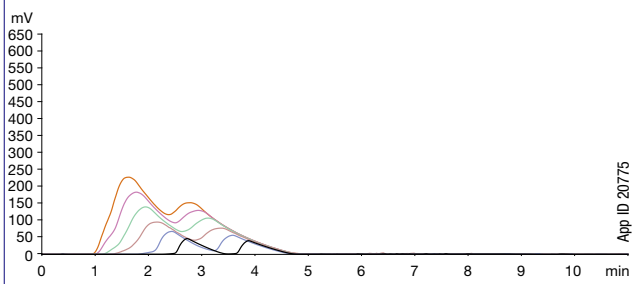
Axia™ Packed Preparative HPLC

Excellent Loadability and Higher Efficiencies

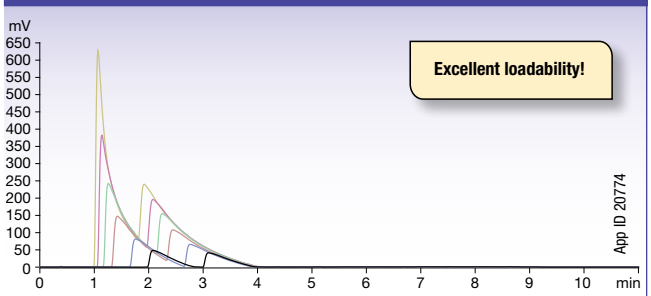
Axia columns packed with Kinetex 5 µm core-shell media provide higher efficiencies and loadability that is as good or better than columns packed with fully porous 5 µm media. Even under very challenging conditions, such as the purification of strong bases using a mobile phase containing formic acid (0.1 %) as the modifier, the Axia-packed Kinetex 5 µm media outperforms a fully porous Waters XBridge Prep column.

Compare Loadability

Waters® XBridge® 5 µm C18 Prep OBD™ 50 x 19 mm



Kinetex 5 µm C18 Axia Packed 50 x 21.2 mm



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

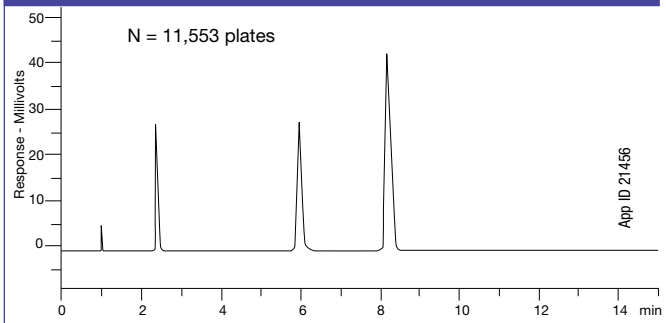
Gradient:

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

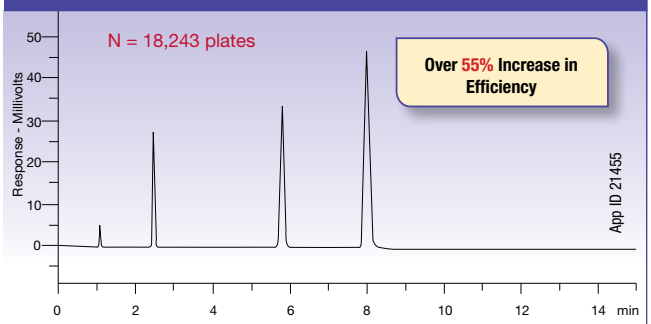
Flow Rate: 30 mL/min
Temperature: Ambient
Detection: UV @ 254 nm
Sample: 200 mg/mL in DMSO
1. Doxepin (From 1 - 500 mg on-column)
2. Amitriptyline (From 1 - 500 mg on-column)

Compare Efficiencies

Waters® XBridge® 5 µm C18 Prep OBD™ 150 x 19 mm



Kinetex 5 µm XB-C18 Axia Packed 150 x 21.2 mm



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

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

SecurityGuard™ PREP System

(Highly recommended for extending column lifetime)
Protect your Axia Packed column and prolong its lifetime with SecurityGuard, the advanced HPLC guard cartridge system.

- Get full protection with minimal impact on your chromatographic results.
- Contaminants are retained by an inexpensive, 15 x 21.2 or 15 x 30 mm ID disposable cartridge. See p. 254. For Kinetex Core-Shell SecurityGuard PREP cartridges, see p. 210.

Ordering Information

SecurityGuard PREP System

Part No.	Description	Unit	Price
AJ0-8223	SecurityGuard PREP HPLC Guard Cartridge Holder Kit, 21.2 mm ID, includes column coupler	ea	
AJ0-8277	SecurityGuard PREP HPLC Guard Cartridge Holder Kit, 30.0 mm ID, includes column coupler	ea	

Axia™ Packed Preparative HPLC

U.S. Patent No. 7, 674, 383

guarantee

If Axia packed columns do not provide at least an equivalent separation as compared to a competing preparative column of the same particle size, same phase, and dimensions, return the column with comparative data within 45 days for a FULL REFUND. Only applies to 21.2 mm ID columns.

Axia Packed Columns

Ordering Information

Phases	Part No.	Price
50 x 21.2 mm		
Gemini 5 µm C18	00B-4435-P0-AX	
Gemini 10 µm C18	00B-4436-P0-AX	
Gemini 5 µm NX-C18	00B-4454-P0-AX	
Gemini 10 µm NX-C18	00B-4455-P0-AX	
Kinetex 5 µm XB-C18	00B-4605-P0-AX	
Kinetex 5 µm C18	00B-4601-P0-AX	
Kinetex 5 µm C8	00B-4608-P0-AX	
Kinetex 5 µm Phenyl-Hexyl	00B-4603-P0-AX	
Luna 5 µm C18(2)	00B-4252-P0-AX	
Luna 10 µm C18(2)	00B-4253-P0-AX	
Luna 5 µm C8(2)	00B-4249-P0-AX	
Luna 10 µm C8(2)	00B-4250-P0-AX	
Luna 5 µm CN	00B-4255-P0-AX	
Luna 5 µm PFP(2)	00B-4448-P0-AX	
Luna 5 µm Phenyl-Hexyl	00B-4257-P0-AX	
Luna 5 µm HILIC	00B-4450-P0-AX	
Luna 5 µm Silica(2)	00B-4274-P0-AX	
Synergi 4 µm Fusion-RP	00B-4424-P0-AX	
Synergi 4 µm Max-RP	00B-4337-P0-AX	
Synergi 4 µm Hydro-RP	00B-4375-P0-AX	
Synergi 4 µm Polar-RP	00B-4336-P0-AX	
75 x 21.2 mm		
Gemini 5 µm C18	00C-4435-P0-AX	
Gemini 5 µm NX-C18	00C-4454-P0-AX	
Luna 5 µm C18(2)	00C-4252-P0-AX	
100 x 21.2 mm		
Gemini 5 µm C18	00D-4435-P0-AX	
Gemini 10 µm C18	00D-4436-P0-AX	
Gemini 5 µm C6-Phenyl	00D-4444-P0-AX	
Gemini 5 µm NX-C18	00D-4454-P0-AX	
Gemini 10 µm NX-C18	00D-4455-P0-AX	
Jupiter 10 µm C18	00D-4055-P0-AX	
Jupiter 10 µm C4	00D-4168-P0-AX	
Jupiter 10 µm Proteo	00D-4397-P0-AX	
Kinetex 5 µm XB-C18	00D-4605-P0-AX	
Kinetex 5 µm C18	00D-4601-P0-AX	
Kinetex 5 µm C8	00D-4608-P0-AX	
Kinetex 5 µm Phenyl-Hexyl	00D-4603-P0-AX	
Luna 5 µm C18(2)	00D-4252-P0-AX	
Luna 10 µm C18(2)	00D-4253-P0-AX	
Luna 5 µm C8(2)	00D-4249-P0-AX	
Luna 5 µm PFP(2)	00D-4448-P0-AX	
Luna 5 µm Phenyl-Hexyl	00D-4257-P0-AX	
Luna 5 µm NH_2	00D-4378-P0-AX	
Luna 5 µm HILIC	00D-4450-P0-AX	
Luna 5 µm Silica (2)	00D-4274-P0-AX	
Lux 5 µm Amylose-2	00D-4472-P0-AX	
Lux 5 µm Cellulose-1	00D-4459-P0-AX	
Lux 5 µm Cellulose-2	00D-4457-P0-AX	
Synergi 4 µm Fusion-RP	00D-4424-P0-AX	
Synergi 4 µm Max-RP	00D-4337-P0-AX	
Synergi 10 µm Max-RP	00D-4350-P0-AX	
Synergi 4 µm Hydro-RP	00D-4375-P0-AX	
Synergi 4 µm Polar-RP	00D-4336-P0-AX	
150 x 21.2 mm		
Gemini 5 µm C18	00F-4435-P0-AX	
Gemini 10 µm C18	00F-4436-P0-AX	
Gemini 5 µm C6-Phenyl	00F-4444-P0-AX	
Gemini 5 µm NX-C18	00F-4454-P0-AX	
Gemini 10 µm NX-C18	00F-4455-P0-AX	
Kinetex 5 µm XB-C18	00F-4605-P0-AX	

continued

Phases	Part No.	Price
150 x 21.2 mm *(cont'd)*		
Kinetex 5 µm C18	00F-4601-P0-AX	
Kinetex 5 µm C8	00F-4608-P0-AX	
Kinetex 5 µm Phenyl-Hexyl	00F-4603-P0-AX	
Luna 5 µm C18(2)	00F-4252-P0-AX	
Luna 10 µm C18(2)	00F-4253-P0-AX	
Luna 5 µm C8(2)	00F-4249-P0-AX	
Luna 10 µm C8(2)	00F-4250-P0-AX	
Luna 5 µm CN	00F-4255-P0-AX	
Luna 5 µm NH_2	00F-4378-P0-AX	
Luna 5 µm PFP(2)	00F-4448-P0-AX	
Luna 5 µm Phenyl-Hexyl	00F-4257-P0-AX	
Luna 5 µm HILIC	00F-4450-P0-AX	
Luna 5 µm Silica(2)	00F-4274-P0-AX	
Lux 5 µm Amylose-2	00F-4472-P0-AX	
Lux 5 µm Cellulose-1	00F-4459-P0-AX	
Lux 5 µm Cellulose-2	00F-4457-P0-AX	
Lux 5 µm Cellulose-3	00F-4493-P0-AX	
Lux 5 µm Cellulose-4	00F-4491-P0-AX	
Synergi 4 µm Max-RP	00F-4337-P0-AX	
Synergi 4 µm Hydro-RP	00F-4375-P0-AX	
Synergi 4 µm Polar-RP	00F-4336-P0-AX	
Synergi 4 µm Fusion-RP	00F-4424-P0-AX	
250 x 21.2 mm		
Gemini 5 µm C18	00G-4435-P0-AX	
Gemini 10 µm C18	00G-4436-P0-AX	
Gemini 5 µm C6-Phenyl	00G-4444-P0-AX	
Gemini 5 µm NX-C18	00G-4454-P0-AX	
Gemini 10 µm NX-C18	00G-4455-P0-AX	
Jupiter 10 µm C4	00G-4168-P0-AX	
Jupiter 4 µm Proteo	00G-4396-P0-AX	
Jupiter 10 µm Proteo	00G-4397-P0-AX	
Kinetex 5 µm XB-C18	00G-4605-P0-AX	
Kinetex 5 µm C18	00G-4601-P0-AX	
Kinetex 5 µm C8	00G-4608-P0-AX	
Kinetex 5 µm Phenyl-Hexyl	00G-4603-P0-AX	
Luna 5 µm C18(2)	00G-4252-P0-AX	
Luna 10 µm C18(2)	00G-4253-P0-AX	
Luna 5 µm C8(2)	00G-4249-P0-AX	
Luna 10 µm C8(2)	00G-4250-P0-AX	
Luna 5 µm CN	00G-4255-P0-AX	
Luna 5 µm NH_2	00G-4378-P0-AX	
Luna 5 µm PFP(2)	00G-4448-P0-AX	
Luna 5 µm Phenyl-Hexyl	00G-4257-P0-AX	
Luna 5 µm Silica(2)	00G-4274-P0-AX	
Luna 10 µm Silica(2)	00G-4091-P0-AX	
Lux 5 µm Amylose-2	00G-4472-P0-AX	
Lux 5 µm Cellulose-1	00G-4459-P0-AX	
Lux 5 µm Cellulose-2	00G-4457-P0-AX	
Lux 5 µm Cellulose-3	00G-4493-P0-AX	
Lux 5 µm Cellulose-4	00G-4491-P0-AX	
Synergi 4 µm Max-RP	00G-4337-P0-AX	
Synergi 4 µm Hydro-RP	00G-4375-P0-AX	
Synergi 4 µm Polar-RP	00G-4336-P0-AX	
Synergi 4 µm Fusion-RP	00G-4424-P0-AX	

Make you Axia columns last longer with SecurityGuard PREP Holders and Cartridges. See p.254

AXIA

SFC APPROVED

Axia™ Packed Preparative HPLC

U.S. Patent No. 7, 674, 383

Axia Packed Columns *(cont'd)*

guarantee

If Axia packed columns do not provide at least an equivalent separation as compared to a competing preparative column of the same particle size, same phase, and dimensions, return the column with comparative data within 45 days for a FULL REFUND. Only applies to 21.2 mm ID columns.

Ordering Information *(cont'd)*

Phases	Part No.	Price
50 x 30 mm		
Gemini 5 µm C18	00B-4435-U0-AX	
Gemini 10 µm C18	00B-4436-U0-AX	
Gemini 5 µm NX-C18	00B-4454-U0-AX	
Gemini 10 µm NX-C18	00B-4455-U0-AX	
Kinetex 5 µm C18	00B-4601-U0-AX	
Luna 5 µm C18(2)	00B-4252-U0-AX	
Luna 10 µm C18(2)	00B-4253-U0-AX	
Luna 5 µm C8(2)	00B-4249-U0-AX	
Luna 10 µm C8(2)	00B-4250-U0-AX	
Luna 5 µm Phenyl-Hexyl	00B-4257-U0-AX	
Luna 5 µm PFP(2)	00B-4448-U0-AX	
Luna 5 µm Silica(2)	00B-4274-U0-AX	
Synergi 4 µm Max-RP	00B-4337-U0-AX	
Synergi 10 µm Max-RP	00B-4350-U0-AX	
Synergi 4 µm Hydro-RP	00B-4375-U0-AX	
Synergi 10 µm Hydro-RP	00B-4376-U0-AX	
Synergi 4 µm Polar-RP	00B-4336-U0-AX	
Synergi 10 µm Polar-RP	00B-4351-U0-AX	
75 x 30 mm		
Gemini 5 µm C18	00C-4435-U0-AX	
Gemini 5 µm C6-Phenyl	00C-4444-U0-AX	
Gemini 5 µm NX-C18	00C-4454-U0-AX	
Luna 5 µm C18(2)	00C-4252-U0-AX	
Luna 10 µm C18(2)	00C-4253-U0-AX	
Luna 5 µm C8(2)	00C-4249-U0-AX	
Luna 5 µm Phenyl-Hexyl	00C-4257-U0-AX	
Synergi 4 µm Max-RP	00C-4337-U0-AX	
Synergi 4 µm Hydro-RP	00C-4375-U0-AX	
Synergi 4 µm Polar-RP	00C-4336-U0-AX	
100 x 30 mm		
Gemini 5 µm C18	00D-4435-U0-AX	
Gemini 10 µm C18	00D-4436-U0-AX	
Gemini 5 µm C6-Phenyl	00D-4444-U0-AX	
Gemini 5 µm NX-C18	00D-4454-U0-AX	
Gemini 10 µm NX-C18	00D-4455-U0-AX	
Jupiter 10 µm C18	00D-4055-U0-AX	
Kinetex 5 µm C18	00D-4601-U0-AX	
Luna 5 µm C18(2)	00D-4252-U0-AX	
Luna 10 µm C18(2)	00D-4253-U0-AX	
Luna 5 µm C8(2)	00D-4249-U0-AX	
Luna 5 µm CN	00D-4255-U0-AX	
Luna 5 µm PFP(2)	00D-4448-U0-AX	
Luna 5 µm Phenyl-Hexyl	00D-4257-U0-AX	
Luna 5 µm Silica(2)	00D-4274-U0-AX	
Synergi 4 µm Max-RP	00D-4337-U0-AX	
Synergi 10 µm Max-RP	00D-4350-U0-AX	
Synergi 4 µm Hydro-RP	00D-4375-U0-AX	
Synergi 4 µm Polar-RP	00D-4336-U0-AX	
Synergi 4 µm Fusion-RP	00D-4424-U0-AX	
Synergi 10 µm Fusion-RP	00D-4425-U0-AX	

For Axia Reducing Adapter, see p. 367
For Clarity Oligo-RP and Oligo-WAX Axia packed columns, see p. 324
For PREP SecurityGuard Cartridges, see p. 254
For PREP Column In-Line Filter, see p. 20
For SFC information see p. 339

For additional phases and sizes not displayed, please visit the Phenomenex.com website's individual product pages or contact your Phenomenex technical consultant or local distributor.

Phases	Part No.	Price
150 x 30 mm		
Gemini 5 µm C18	00F-4435-U0-AX	
Gemini 10 µm C18	00F-4436-U0-AX	
Gemini 5 µm NX-C18	00F-4454-U0-AX	
Gemini 10 µm NX-C18	00F-4455-U0-AX	
Kinetex 5 µm C18	00F-4601-U0-AX	
Luna 5 µm C18(2)	00F-4252-U0-AX	
Luna 10 µm C18(2)	00F-4253-U0-AX	
Luna 5 µm NH_2	00F-4378-U0-AX	
Luna 5 µm PFP(2)	00F-4448-U0-AX	
Lux 5 µm Amylose-2	00F-4472-U0-AX	
Lux 5 µm Cellulose-2	00F-4457-U0-AX	
Synergi 4 µm Polar-RP	00F-4336-U0-AX	
250 x 30 mm		
Gemini 5 µm C18	00G-4435-U0-AX	
Gemini 10 µm C18	00G-4436-U0-AX	
Gemini 5 µm NX-C18	00G-4454-U0-AX	
Gemini 10 µm NX-C18	00G-4455-U0-AX	
Jupiter 10 µm C18	00G-4055-U0-AX	
Jupiter 4 µm Proteo	00G-4396-U0-AX	
Jupiter 10 µm Proteo	00G-4397-U0-AX	
Kinetex 5 µm C18	00G-4601-U0-AX	
Luna 5 µm C18(2)	00G-4252-U0-AX	
Luna 10 µm C18(2)	00G-4253-U0-AX	
Luna 5 µm C8(2)	00G-4249-U0-AX	
Luna 5 µm CN	00G-4255-U0-AX	
Luna 5 µm PFP(2)	00G-4448-U0-AX	
Luna 5 µm HILIC	00G-4450-U0-AX	
Luna 5 µm Silica(2)	00G-4274-U0-AX	
Lux 5 µm Amylose-2	00G-4472-U0-AX	
Lux 5 µm Cellulose-1	00G-4459-U0-AX	
Lux 5 µm Cellulose-2	00G-4457-U0-AX	
Lux 5 µm Cellulose-3	00G-4493-U0-AX	
Lux 5 µm Cellulose-4	00G-4491-U0-AX	
Synergi 4 µm Polar-RP	00G-4336-U0-AX	
50 x 50 mm		
Gemini 5 µm C18	00B-4435-V0-AX	
Gemini 10 µm C18	00B-4436-V0-AX	
Gemini 10 µm NX-C18	00B-4455-V0-AX	
Luna 5 µm C18(2)	00B-4252-V0-AX	
Luna 10 µm C18(2)	00B-4253-V0-AX	
100 x 50 mm		
Gemini 10 µm C18	00D-4436-V0-AX	
Gemini 10 µm NX-C18	00D-4455-V0-AX	
Luna 10 µm C18(2)	00D-4253-V0-AX	
150 x 50 mm		
Gemini 10 µm C18	00F-4436-V0-AX	
Gemini 10 µm NX-C18	00F-4455-V0-AX	
250 x 50 mm		
Gemini 10 µm C18	00G-4436-V0-AX	
Gemini 10 µm NX-C18	00G-4455-V0-AX	
Luna 10 µm C18(2)	00G-4253-V0-AX	
Luna 15 µm C18(2)	00G-4273-V0-AX	
Luna 10 µm C8(2)	00G-4250-V0-AX	
Luna 15 µm C8(2)	00G-4272-V0-AX	
Lux 5 µm Cellulose-1	00G-4459-V0-AX	
Lux 5 µm Cellulose-2	00G-4457-V0-AX	
Lux 5 µm Cellulose-3	00G-4493-V0-AX	
Lux 5 µm Cellulose-4	00G-4491-V0-AX	

AXIA™

SFC APPROVED

Process Chromatography

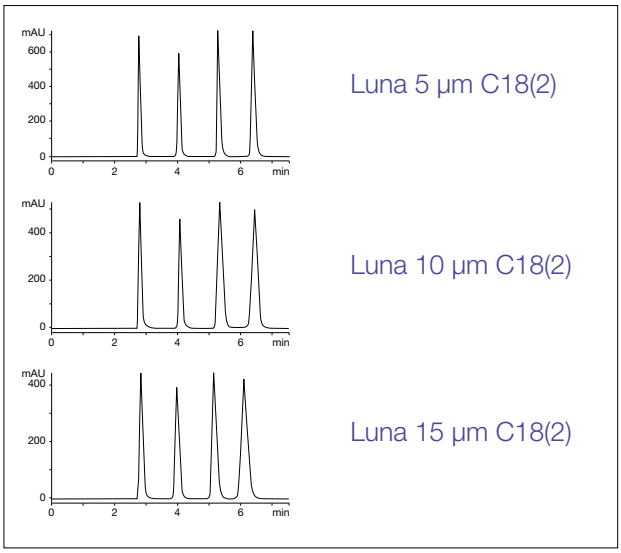
Bulk HPLC Media

- **Grams to Multi-Kilogram, Phenomenex can deliver**
- **Over 20 different media available**
- **Long lifetime and excellent reproducibility**

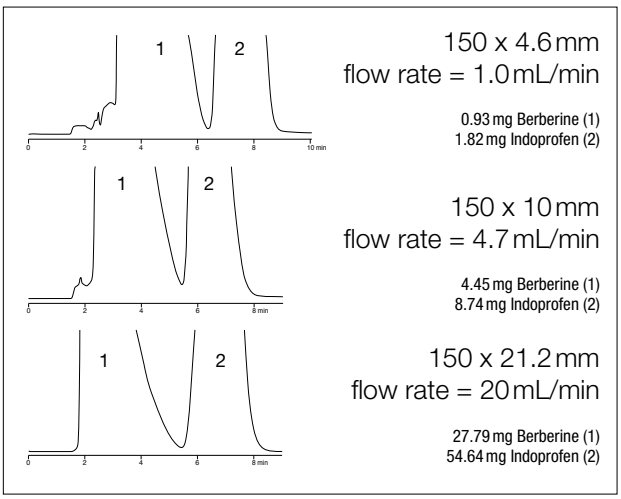
Quick, Direct Scale-up from Analytical Methods

Scaling up is easier when using an HPLC media that provides near identical performance across all particle sizes and with increases in column diameter. Any mobile phase conditions developed on a Gemini, Jupiter, Luna or Synergi analytical column can be easily transferred to a 10 µm or 15 µm preparative column with equivalent resolution, selectivity, and proportional mass loading. Lux analytical columns also easily scale to 20 µm preparative columns.

Equivalent Performance Across All Particle Sizes



Scaling Up with Luna 10 µm C18(2)



Mechanically Strong Media

- **Media free of crushed or cracked silica and silica fines**
- **Backpressures that remain stable**
- **Consistent particle size distribution so performance is maintained**
- **Longer column lifetimes (frits stay unclogged)**

Withstand Multiple Repacking in Dynamic Axial Compression (DAC) Systems

Dynamic Axial Compression (DAC) systems apply high mechanical stress on the packing media. This, along with high flow rates and backpressures can crack or sheer low mechanical strength silica particles, creating silica fines, which will rapidly degrade column efficiency and clog frits. Gemini, Jupiter, Luna, Synergi and Lux media provide exceptional strength over multiple DAC packings without sacrificing performance as well as easily withstanding high mechanical stress.

SFC APPROVED

Process Chromatography

Chemically Stable Media

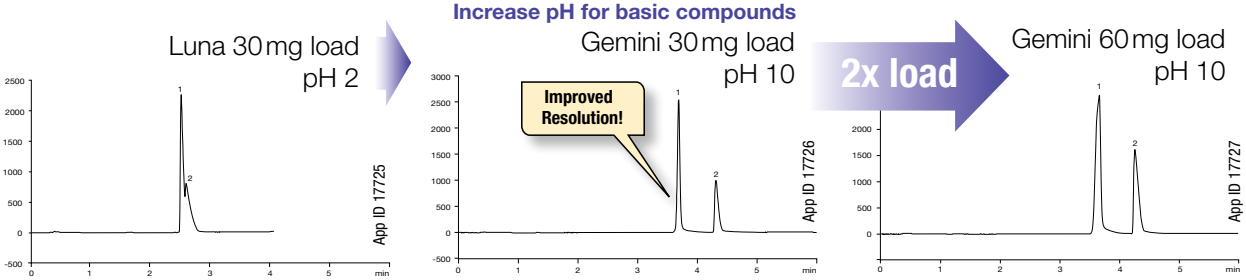
Chemical stability at pH levels outside the normal constraints of 2-7 is a critical factor in today's process environments for several reasons:

- **Allows greater loading capacity**
- **Allows optimization of sample solubility**
- **pH adjustment to optimize recovery of API**
- **Clean-in-Place (CIP) processes by means of a caustic wash**

Increase Sample Load with pH

In reversed phase chromatography, compounds retain better when neutral. With the advent of pH stable (1-12) process medias such as Gemini C18, improving retention and resolution of your basic compounds at high pH is now possible without compromising column lifetime. Under these conditions you can easily double or triple the loading compared to your current low pH purifications.

Increase pH for basic compounds



Low pH

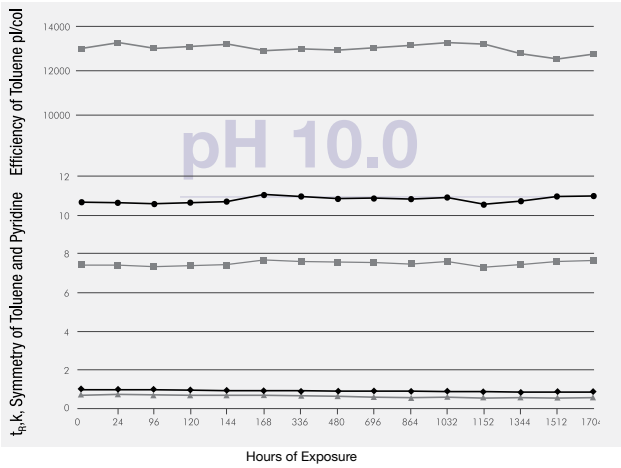
Column: Luna 5 µm C18(2) Axia Packed
Dimensions: 50 x 21.2 mm
Part No.: 00B-4252-P0-AX
Mobile Phase: A: 0.5 % TFA in Water, pH 2.0
B: Acetonitrile
Gradient: 95:5 to 5:95 (A/B) over 4 minutes
Flow Rate: 30 mL/min
Temperature: Ambient
Detection: UV @ 254 nm
Sample: 1. Propranolol
2. Diphenhydramine

High pH

Column: Gemini 5 µm C18 Axia Packed
Dimensions: 50 x 21.2 mm
Part No.: 00B-4435-P0-AX
Mobile Phase: A: 50 mM Ammonium Bicarbonate, pH 10.0
B: Acetonitrile
Gradient: 95:5 to 5:95 (A/B) over 5 minutes
Flow Rate: 30 mL/min
Temperature: Ambient
Detection: UV @ 254 nm
Sample: 1. Propranolol
2. Diphenhydramine

Extended Media Lifetime even Under Caustic Washes

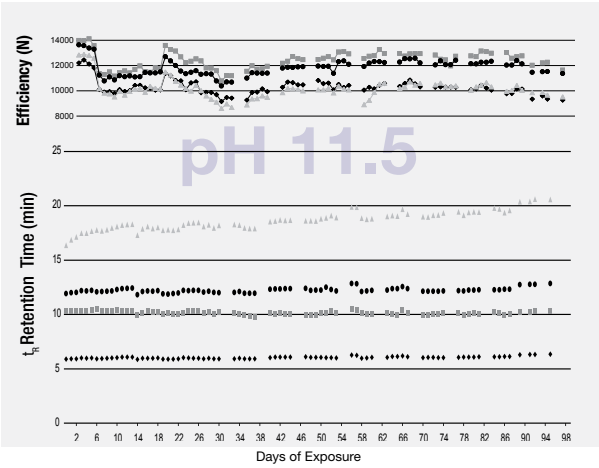
Luna 5 µm C18(2) 100 Å, pH Stable (1.5-10)



Test Conditions: Column stability tested under highly basic conditions
Continuous flush in 20 mM Na_2HPO_4 (pH 10.0) in Water/Acetonitrile, 50:50.

KEY:
- Efficiency, Plates for Toluene
- t_R of Toluene (min)
- k of Toluene
- Symmetry of Toluene
- Symmetry of Pyridine

Gemini 5 µm C18 110 Å, pH Stable (1-12)



Test Conditions: Flushed with non recycled buffer 1:1 Acetonitrile 50 mM Methylpyrrolidine (pH 11.5), 1 mL/min.

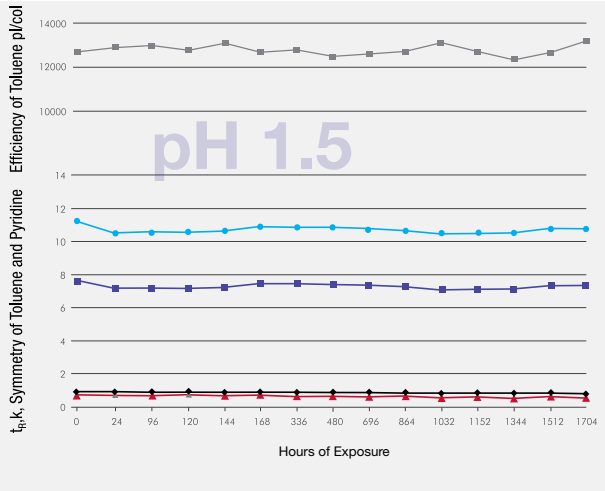
KEY:
- t_R of Toluene
- t_R Diphenhydramine
- t_R Propranolol
- t_R Nortriptyline

SFC APPROVED

Process Chromatography

Excellent Performance at Low pH

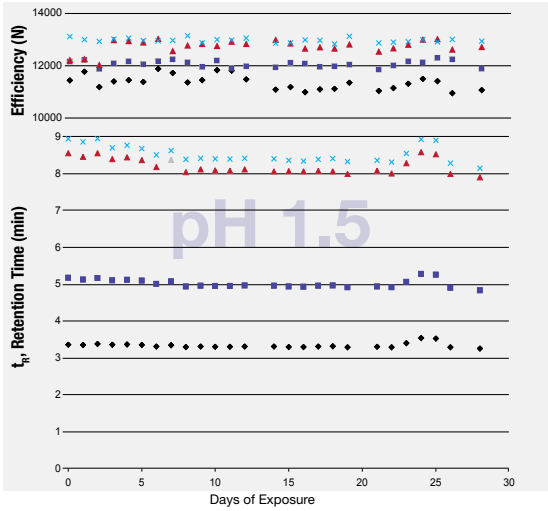
Luna 5 µm C18(2) 100 Å, pH Stable (1.5-10)



Test Conditions: Column stability tested under highly acidic conditions.
Continuous flush in 0.1 % TFA (pH 1.5) in Water/Acetonitrile, 50:50.

KEY:
- Efficiency, Plates for Toluene
- t_R of Toluene (min)
- k of Toluene
- Symmetry of Toluene
- Symmetry of Pyridine

Gemini 5 µm C18 110 Å, pH Stable (1-12)



Test Conditions: Continuous flush in 0.1 % TFA, (pH 1.5) at room temperature.

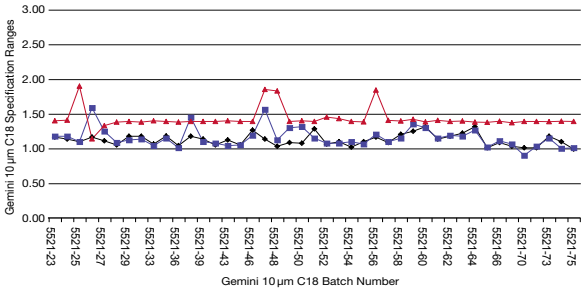
KEY:
- t_R Naproxen
- t_R Tolune
- t_R Ethylparaben
- t_R Diflunisal

Controlled Manufacturing Process

We engineer and manufacture all of our media with your needs as a guideline. Our state-of-the-art facility gives us the capability to provide some of the most consistent media available on the market. With very high loadability, excellent mechanical strength, extended chemical stability, and batch-to-batch reproducibility, it is no wonder why more and more people turn to Phenomenex media every day.

Batch-to-Batch Reproducibility

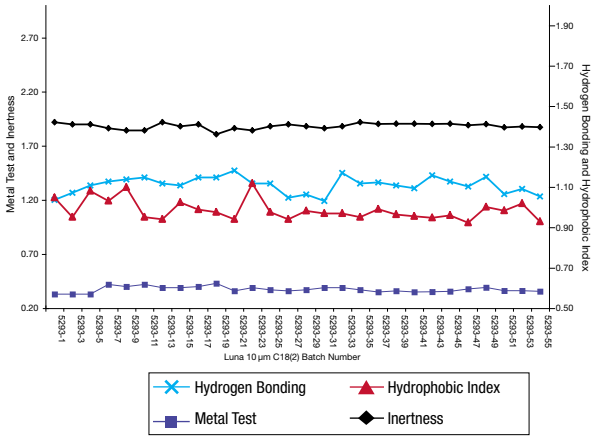
A Certificate of Analysis showing the test results for the batch of material is provided with each Gemini media order. This data ensures batch-to-batch reproducibility.



- Metal Sensitivity
- Silanol Activity
- Methylene Selectivity

Batch-to-Batch Reproducibility

With over 15 years of proven reproducibility, you can be confident in your choice to develop methods on Luna. The following graph shows consistency in both inertness and hydrophobicity across 40 batches of Luna 10 µm C18(2).



- Hydrogen Bonding
- Hydrophobic Index
- Metal Test
- Inertness

Exceptional Chemical Stability for Low Leachates

The dense bonded phase density of Luna and Synergi provide revolutionary pH 1.5–10 stability†, with Gemini offering an extended pH range of 1.0-12.0. The wide pH range of these media provides flexibility in method development allowing for improvements in resolution and greater mass loading of basic compounds (p*K*a > 9) at high pH.

†Please see Sorbent Characteristics chart pp. 390-391 for exact pH limits of each phase.

SFC APPROVED

Process Chromatography

PREP LC Columns and Bulk HPLC Media

- **Maintain or increase yield with less media**
- **Dramatically reduce cost of PREP/Process-LC purifications**
- **Withstand multiple axial compression packings with high mechanical strength media**

Maintain or Increase Yield with Less Media

Higher silica surface area equals greater mass loading. With 400 m^2/g surface area, Luna has one of the highest surface areas among popular PREP LC media. Even greater mass loading is possible with the 475 m^2/g surface area of Synergi 80 Å media. Both Synergi and Luna are unique in that they offer high mass loading with low-density, rugged silica; requiring less media to pack a given volume. Thus while less media is needed to pack a given dimension compared to other common prep sorbents, mass loading remains high with peak resolution and purity maintained. Especially for early eluting target compounds, Luna has been shown to provide greater mass loading compared to some common prep media. This allows for increased loading on less media, and more yield per run.

Choose the Correct Media for your Application

Bonded Phase	Sorbent	Pore Size (Å)	Surface Area (m^2/g)	pH Stability	Particle Size (µm) ("bulk" indicates bulk media available)	Density	Applications
Achiral Media							
Si (Silica)	Luna Silica(2)	100	400	2.0 - 7.5	10 µm (bulk) 10-*PREP* (bulk) 15 µm (bulk)	0.45	Small Organic Molecules, Steroids, Nutraceuticals, Fat Soluble Vitamins, Tocopherols
	Luna Silica(3)	100	400	2.0 - 7.5	10-*PREP* (bulk)	0.47	Small Organic Molecules, Steroids, Nutraceuticals, Fat Soluble Vitamins, Tocopherols
C18	Luna C18(2)	100	400	1.5 - 10	10 µm (bulk) 10-*PREP* (bulk) 15 µm (bulk)	0.58	Pharmaceuticals, Peptides, Nutraceuticals, Agrochemical, Vitamins, Basic Compounds, General Reversed Phase Applications
	Luna C18(3)	100	400	1.5 - 10	10-*PREP* (bulk)	0.60	Pharmaceuticals, Peptides, Nutraceuticals, Agrochemical, Vitamins, Basic Compounds, General Reversed Phase Applications
	Synergi Hydro-RP *C18 with Polar Endcapping*	80	475	1.5 - 7.5	10 µm (bulk)	0.55	Very Polar Compounds, Pharmaceuticals, Vitamins, Antibiotics
	Jupiter 300 C18	300	170	1.5 - 10	10 µm (bulk), 15 µm (bulk)	0.44	Hydrophilic Proteins, Oligonucleotides (>30 mer)
	Gemini C18	110	375	1-12	10 µm (bulk)	0.58	Basic Compounds, increased retention & loadability at high pH, low and high pH applications
C12	Synergi Max-RP	80	475	1.5 - 10	10 µm (bulk)	0.55	Pharmaceuticals, Nutraceuticals, Agrochemical, Vitamins, Amino Acids, Basic Compounds, General Reversed Phase Applications
	Jupiter Proteo	90	475	1.5 - 10	10 µm (bulk)	0.55	Peptides, Oligonucleotides (<30 mer), siRNA
C8	Luna C8(2)	100	400	1.5 - 10	10 µm (bulk) 10-*PREP* (bulk) 15 µm (bulk)	0.56	Pharmaceuticals, Peptides, Estrogens, Basic Compounds, General Reversed Phase Applications
C4	Luna C4(2)	100	400	1.5 - 10	10-*PREP* (bulk)	0.54	Hydrophobic Compounds, Peptides, Small Proteins
	Jupiter 300 C4	300	170	1.5 - 10	10 µm (bulk), 15 µm (bulk)	0.38	Hydrophobic Proteins
Phenyl	Luna Phenyl-Hexyl	100	440	1.5 - 10	10 µm (bulk) 10-*PREP* (bulk) 15 µm (bulk)	0.58	Polar and Aromatic Compounds, Peptides, Antibiotics, Lipids, Phenols, Sweeteners
	Synergi Polar-RP *(Ether-Linked Phenyl)*	80	475	1.5 – 7.0	10 µm (bulk)	0.55	Polar and Aromatic Compounds, Hydrophilic Peptides, Antibiotics, Phenols, Sweeteners
CN (Cyano)	Luna CN	100	400	1.5 – 7.0	10 µm (bulk)	0.55	Polar Compounds, Pharmaceuticals, Hydrophilic Peptides, Esters, Steroids, Phthalates, Compounds with COOH, CO, NH_2, NHR_2 or NR_2 groups
NH_2 (Amino)	Luna NH_2	100	400	1.5 – 11	10 µm (bulk)	0.57	Sugars, Sugar Alcohols, Anionic Compounds, Steroids, Vitamins, Nucleosides, Oligonucleotides
SCX (Strong Cation Exchange)	Luna SCX	100	400	2 – 7.0	10 µm (bulk)	0.54	Amine and polyamine containing compounds, Nucleotides, Peptides
Chiral Media							
cellulose tris(3,5-dimethylphenyl carbamate)	Lux Cellulose-1	1000	—	2 – 9	10, 20 µm	0.62	Enhanced enantioselectivity for aromatic, conjugated and other chiral compounds
cellulose tris(3-chloro-4-methyl phenylcarbamate)	Lux Cellulose-2	1000	—	2 – 9	10, 20 µm	0.62	Enhanced enantioselectivity for aromatic, conjugated and other chiral compounds
cellulose tris(4-methylbenzoate)	Lux Cellulose-3	1000	—	2 – 9	20 µm	0.62	Enhanced enantioselectivity for aromatic, conjugated and other chiral compounds
cellulose tris(4-chloro-3-methyl phenylcarbamate)	Lux Cellulose-4	1000	—	2 – 9	20 µm	0.62	Enhanced enantioselectivity for aromatic, conjugated and other chiral compounds

SFC APPROVED

Scout and Axia Packed Preparative Columns

Achiral Columns

Ordering Information

Luna 10 µm Semi-Prep and Axia Preparative Columns (mm)							SecurityGuard™ Cartridges (mm)			
Phases	250 x 4.6	250 x 10	250 x 15	250 x 21.2	250 x 30	250 x 50	4 x 3.0*	10 x 10‡	15 x 21.2**	15 x 30◆
							/10pk	/3pk	/ea	/ea
Silica(2)	00G-4091-E0	00G-4091-N0	—	00G-4091-P0-AX	00G-4091-U0-AX	00G-4091 V0-AX	AJ0-4348	AJ0-7223	AJ0-7229	AJ0-8312
C8(2)	00G-4250-E0	00G-4250-N0	—	00G-4250-P0-AX	00G-4250-U0-AX	00G-4250-V0-AX	AJ0-4290	AJ0-7222	AJ0-7840	AJ0-8302
C18(2)	00G-4253-E0	00G-4253-N0	00G-4253-AK	00G-4253-P0-AX	00G-4253-U0-AX	00G-4253-V0-AX	AJ0-4287	AJ0-7221	AJ0-7839	AJ0-8301
CN	00G-4300-E0	00G-4300-N0	—	00G-4300-P0-AX	—	—	AJ0-4305	AJ0-7313	AJ0-8220	AJ0-8311
Phenyl-Hexyl	00G-4285-E0	00G-4285-N0	—	00G-4285-P0-AX	00G-4285-U0-AX	—	AJ0-4351	AJ0-7314	AJ0-7841	AJ0-8303
							for ID:3.2-8.0 mm	9-16 mm	18-29 mm	30-49 mm

Luna 10 µm-*PREP* Semi-Prep and Axia Preparative Columns (mm)					SecurityGuard™ Cartridges (mm)			
Phases	250 x 4.6	250 x 10	250 x 21.2	250 x 30	4 x 3.0*	10 x 10.0‡	15 x 21.2**	15 x 30◆
					/10pk	/3pk	/ea	/ea
PREP Silica(3)	00G-4617-E0	00G-4617-N0	—	—	AJ0-4348	AJ0-7223	—	—
PREP C4(2)	00G-4460-E0	00G-4460-N0	—	—	—	—	—	—
PREP C8(2)	00G-4323-E0	00G-4323-N0	00G-4323-P0-AX	—	AJ0-4290	AJ0-7222	AJ0-7840	AJ0-8302
PREP C18(3)	00G-4616-E0	00G-4616-N0	—	—	AJ0-4287	AJ0-7221	—	—
PREP C18(2)	00G-4324-E0	00G-4324-N0	00G-4324-P0-AX	00G-4324-U0-AX	AJ0-4287	AJ0-7221	AJ0-7839	AJ0-8301
					for ID: 3.2-8.0 mm	9-16 mm	18-29 mm	30-49 mm

Luna 15 µm Axia Preparative and Pilot Scale Columns (mm)					SecurityGuard™ Cartridges (mm)		
Phases	250 x 4.6	250 x 21.2	250 x 30	250 x 50	4 x 3.0*	15 x 21.2**	15 x 30◆
					/10pk	/ea	/ea
Silica(2)	00G-4271-E0	00G-4271-P0-AX	00G-4271-U0-AX	—	AJ0-4348	AJ0-7229	AJ0-8312
C8(2)	00G-4272-E0	00G-4272-P0-AX	—	00G-4272-V0-AX	AJ0-4290	AJ0-7840	AJ0-8302
C18(2)	00G-4273-E0	00G-4273-P0-AX	00G-4273-U0-AX	00G-4273-V0-AX	AJ0-4287	AJ0-7839	AJ0-8301
					for ID: 3.2-8.0 mm	18-29 mm	30-49 mm

Gemini 10 µm Semi-Prep and Axia Preparative Columns (mm)						SecurityGuard™ Cartridges (mm)			
Phases	250 x 4.6	250 x 10	250 x 21.2	250 x 30	250 x 50	4 x 3.0*	10 x 10‡	15 x 21.2**	15 x 30◆
						/10pk	/3pk	/ea	/ea
C18	00G-4436-E0	00G-4436-N0	00G-4436-P0-AX	00G-4436-U0-AX	00G-4436-V0-AX	AJ0-7597	AJ0-7598	AJ0-7846	AJ0-8308
						for ID: 3.2-8.0 mm	9-16 mm	18-29 mm	30-49 mm

Jupiter 10 µm Semi-Prep and Axia Preparative Columns (mm)					SecurityGuard™ Cartridges (mm)			
Phases	250 x 4.6	250 x 10	250 x 21.2	250 x 30	4 x 3.0*	10 x 10‡	15 x 21.2**	15 x 30◆
					/10pk	/3pk	/ea	/ea
C4 300 Å	00G-4168-E0	00G-4168-N0	00G-4168-P0-AX	00G-4168-U0-AX	AJ0-4330	AJ0-7225	AJ0-7231	AJ0-8314
C18 300 Å	00G-4055-E0	00G-4055-N0	—	—	AJ0-4321	AJ0-7224	AJ0-7230	AJ0-8313
Proteo 90 Å	00G-4397-E0	00G-4397-N0	00G-4397-P0-AX	00G-4397-U0-AX	AJ0-6074	AJ0-7275	AJ0-7842	AJ0-8304
					for ID: 3.2-8.0 mm	9-16 mm	18-29 mm	30-49 mm

Synergi 10 µm Analytical, Semi-Prep, Axia Preparative and Pilot Scale Columns (mm)						SecurityGuard™ Cartridges (mm)			
Phases	250 x 4.6	250 x 10	250 x 15	250 x 21.2	250 x 30	4 x 3.0*	10 x 10‡	15 x 21.2 **	15 x 30◆
						/10pk	/3pk	/ea	/ea
Max-RP	00G-4350-E0	00G-4350-N0	—	00G-4350-P0-AX	00G-4350-U0-AX	AJ0-6074	AJ0-7275	AJ0-7842	AJ0-8304
Polar-RP	00G-4351-E0	00G-4351-N0	—	00G-4351-P0-AX	00G-4351-U0-AX	AJ0-6076	AJ0-7276	AJ0-7845	AJ0-8307
Hydro-RP	00G-4376-E0	00G-4376-N0	00G-4376-AK	00G-4376-P0-AX	00G-4376-U0-AX	AJ0-7511	AJ0-7512	AJ0-7843	AJ0-8305
Fusion-RP	00G-4425-E0	00G-4425-N0	—	00G-4425-P0-AX	00G-4425-U0-AX	AJ0-7557	AJ0-7558	AJ0-7844	AJ0-8306
						for ID: 3.2-8.0 mm	9-16 mm	18-29 mm	30-49 mm

Chiral Columns

Ordering Information

Lux Analytical and Axia Preparative Columns (mm)						SecurityGuard™ Cartridges (mm)			
Phases	150 x 4.6	250 x 4.6	250 x 10	250 x 21.2	250 x 50	4 x 3.0*	10 x 10	15 x 21.2**	15 x 30◆
10 µm	—					/10pk	/3pk	/ea	/ea
Lux Cellulose-1	—	00G-4501-E0	00G-4501-N0			AJ0-8403	AJ0-8404	AJ0-8405	AJ0-8406
Lux Cellulose-2	—	00G-4502-E0	00G-4502-N0			AJ0-8366	AJ0-8399	AJ0-8400	AJ0-8401
20 µm						/10pk	/3pk	/ea	/ea
Lux Cellulose-1	00F-4473-E0	00G-4473-E0	00G-4573-N0			AJ0-8403	AJ0-8404	AJ0-8405	AJ0-8406
Lux Cellulose-2	00F-4464-E0	00G-4464-E0	00G-4564-N0			AJ0-8366	AJ0-8399	AJ0-8400	AJ0-8401
Lux Cellulose-3	00F-4504-E0	00G-4504-E0	00G-4504-N0			AJ0-8622	AJ0-8623	AJ0-8624	AJ0-8625
Lux Cellulose-4	00F-4503-E0	00G-4503-E0	00G-4503-N0			AJ0-8627	AJ0-8628	AJ0-8629	AJ0-8630
						for ID: 3.2-8.0 mm	9-16 mm	18-29 mm	30-49 mm

For additional sizes not listed, please visit the individual product pages or contact your Phenomenex technical consultant or local distributor.

*SecurityGuard™ Analytical Cartridges require holder, Part No.: KJ0-4282
‡SemiPrep SecurityGuard™ Cartridges require holder, Part No.: AJ0-7220
**PREP SecurityGuard™ Cartridges require holder, Part No.: AJ0-8223
◆PREP SecurityGuard™ Cartridges require holder, Part No.: AJ0-8277

SFC APPROVED

Process Chromatography

Bulk HPLC Media

Achiral Media

Ordering Information

Clarity

Phases	100 g	1 kg	5 kg	10 kg
10 µm				
Clarity Oligo-RP	04G-4445	04K-4445	04L-4445	04M-4445
Clarity Oligo-WAX	04G-4451	04K-4451	04L-4451	04M-4451

Gemini (110 Å)

Phases	100 g	1 kg	5 kg	10 kg
10 µm				
C18	04G-4436	04K-4436	04L-4436	04M-4436

Luna (100 Å)

Phases	100 g	1 kg	5 kg	10 kg	50 kg	100 kg
10 µm						
Silica(2)	04G-4091	04K-4091	04L-4091	04M-4091	04N-4091	04P-4091
C8(2)	04G-4250	04K-4250	04L-4250	04M-4250	04N-4250	04P-4250
C18(2)	04G-4253	04K-4253	04L-4253	04M-4253	04N-4253	04P-4253
CN	04G-4300	04K-4300	04L-4300	04M-4300	04N-4300	04P-4300
NH_2	04G-4379	04K-4379	04L-4379	04M-4379	04N-4379	04P-4379
SCX	04G-4401	04K-4401	04L-4401	04M-4401	04N-4401	04P-4401
Phenyl-Hexyl	04G-4285	04K-4285	04L-4285	04M-4285	04N-4285	04P-4285
10 µm-*PREP*						
Silica(3)	04G-4617	04K-4617	04L-4617	04M-4617	04N-4617	04P-4617
Silica(2)	04G-4322	04K-4322	04L-4322	04M-4322	04N-4322	04P-4322
C4(2)	04G-4460	04K-4460	04L-4460	04M-4460	04N-4460	04P-4460
C8(2)	04G-4323	04K-4323	04L-4323	04M-4323	04N-4323	04P-4323
C18(3)	04G-4616	04K-4616	04L-4616	04M-4616	04N-4616	04P-4616
C18(2)	04G-4324	04K-4324	04L-4324	04M-4324	04N-4324	04P-4324
Phenyl-Hexyl	04G-4325	04K-4325	04L-4325	04M-4325	04N-4325	04P-4325
15 µm						
Silica(2)	04G-4271	04K-4271	04L-4271	04M-4271	04N-4271	04P-4271
C8(2)	04G-4272	04K-4272	04L-4272	04M-4272	04N-4272	04P-4272
C18(2)	04G-4273	04K-4273	04L-4273	04M-4273	04N-4273	04P-4273
Phenyl-Hexyl	04G-4286	04K-4286	04L-4286	04M-4286	04N-4286	04P-4286

Jupiter (300 Å and 90 Å)

Phases	100 g	1 kg	5 kg	10 kg	50 kg	100 kg
10 µm						
300 Å C4	04G-4168	04K-4168	04L-4168	04M-4168	04N-4168	04P-4168
300 Å C18	04G-4055	04K-4055	04L-4055	04M-4055	04N-4055	04P-4055
Proteo 90 Å	04G-4397	04K-4397	04L-4397	04M-4397	04N-4397	04P-4397
15 µm						
300 Å C4	04G-4169	04K-4169	04L-4169	04M-4169	04N-4169	04P-4169
300 Å C18	04G-4057	04K-4057	04L-4057	04M-4057	04N-4057	04P-4057

Synergi (80 Å)

Phases	100 g	1 kg	5 kg	10 kg	50 kg	100 kg
10 µm						
Max-RP	04G-4350	04K-4350	04L-4350	04M-4350	04N-4350	04P-4350
Hydro-RP	04G-4376	04K-4376	04L-4376	04M-4376	04N-4376	04P-4376
Polar-RP	04G-4351	04K-4351	04L-4351	04M-4351	04N-4351	04P-4351
Fusion-RP	04G-4425	04K-4425	04L-4425	04M-4425	04N-4425	04P-4425

Chiral Media

Ordering Information

Lux (1000 Å)

Phases	10 g	100 g	1 kg
10 µm			
Cellulose-1	04D-4501	04G-4501	04K-4501
Cellulose-2	04D-4502	04G-4502	04K-4502
20 µm			
Cellulose-1	04D-4473	04G-4473	04K-4473
Cellulose-2	04D-4464	04G-4464	04K-4464
Cellulose-3	04D-4504	04G-4504	04K-4504
Cellulose-4	04D-4503	04G-4503	04K-4503

Contact your Phenomenex technical consultant or local distributor for additional bulk packings and quantities not listed.

For additional brand information, please visit the individual product pages or contact your Phenomenex technical consultant or local distributor

For Sepra bulk sorbents, see p. 362

SFC APPROVED

Process Chromatography

guarantee

If Sepra Bulk products do not perform as well or better than your current SPE product of similar phase, mass and size, send in your comparative data within 45 days and keep the Sepra Bulk for FREE.

Sepra™ Bulk Sorbents

- **Provides reproducible recoveries from capture to purification**
- **Removes contaminants and eliminates matrix effects**
- **Offers controlled selectivity for target analytes**
- **Results in high-throughput sample purification**

Phenomenex offers a wide mix of bulk media including an array of large particle media for today's chemists who need effective capture and concentrating resins.

Sepra media offers purification of proteins, peptides, nucleic acids, antibodies, tryptic digests, nucleotides, viruses, and small molecular weight pharmaceuticals in a low pressure environment. It is an excellent economical alternative to high pressure RPC while still offering high resolution and loading capacity.

Capture and Concentrate Resins

Media Base Material	Brand	Phase	Particle Size (µm)	Pore Size (Å)	Surface Area (m^2/g)	Carbon Load (%)	pH Stability	Ordering Information Sepra Bulk Sorbents Phase	100 g	Price	1 kg	Price
Silica	**Sepra**											
		C18-E	50	65	500	17	2-9	C18-E	04G-4348		04K-4348	
		C18-T	50	135	300	15	2-9	C18-T	04G-4405		04K-4405	
		C8	50	65	500	10	2-9	C8	04G-4406		04K-4406	
		Phenyl	50	65	500	10	2-9	Phenyl	04G-4407		04K-4407	
		CN	50	65	500	10	2-9	CN	04G-4409		04K-4409	
		NH_2	50	65	500	5	2-9	NH_2	04G-4408		04K-4408	
		Florisil®	170 (60/100 mesh)	80	300	0	2-9	Florisil®	04G-4411		04K-4411	
		SCX	50	65	500	9	2-9	SCX	04G-4413		04K-4413	
		SAX	50	65	500	6	2-9	SAX	04G-4414		04K-4414	
		WCX	55	70	500	8	2-9	WCX	04G-SO27		04K-SO27	
		Silica	50	65	500	0	2-9	Silica	04G-4410		04K-4410	
		EPH	200	70	Proprietary	0	2-7.5	EPH	04G-4508		04K-4508	
Small Pore Polymer	**Sepra ZT**											
		ZT	30	85	800	–	1-14	ZT	04G-4426		04K-4426	
		ZT-SCX	30	85	800	–	1-14	ZT-SCX	04G-4466		04K-4466	
		ZT-WCX	30	85	800	–	1-14	ZT-WCX	04G-4478		04K-4478	
		ZT-SAX	30	85	800	–	1-14	ZT-SAX	04G-4485		04K-4485	
		ZT-WAX	30	85	800	–	1-14	ZT-WAX	04G-4463		—	—
Large Pore Polymer	**Sepra ZTL**											
		ZTL	115	330	500	–	1-14	ZTL	04G-4470		04K-4470	
		ZTL-SCX	115	330	500	–	1-14	ZTL-SCX	04G-4467		04K-4467	
		ZTL-WCX	115	330	500	–	1-14	ZTL-WCX	Inquire		Inquire	
		ZTL-SAX	115	330	500	–	1-14	ZTL-SAX	Inquire		Inquire	
		ZTL-WAX	115	330	500	–	1-14	ZTL-WAX	04G-4494		04K-4494	
Styrenedivinylbenzene Polymer	**Sepra SDB-L**											
		SDB-L	95	255	500	–	1-14	SDB-L	04G-4412		04K-4412	

SFC APPROVED

Interested in MSPD for your analysis? Please contact us for technique and accessory information.

Florisil® is a registered trademark of U.S. Silica Co.