



It's so easy
to **save** money &
protect the environment

- *lower your consumption of environmentally critical or toxic solvents*
- *reduce your solvent disposal costs*

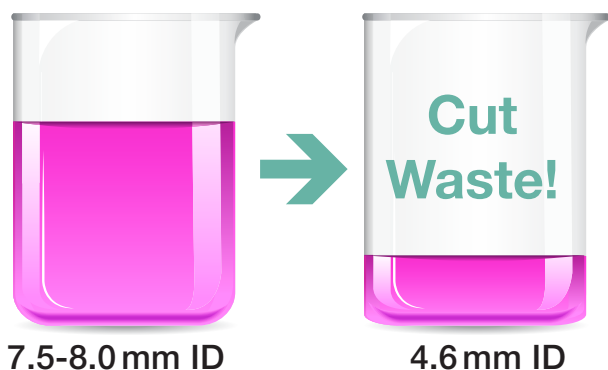
Simply by using
Phenogel Narrow Bore
(4.6 mm ID) GPC/SEC columns



Minimize Solvent Usage

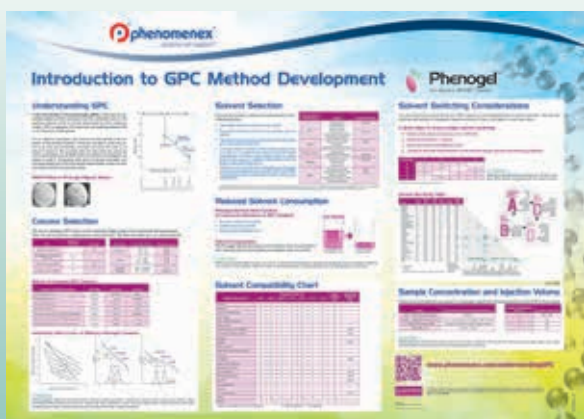
when using Phenogel™ Narrow Bore columns

A more recent approach into improving GPC/SEC analysis is finding a way to minimize the volume of harsh solvents used. This in turn diminishes the amount of waste introduced into the environment as well as cuts the overall laboratory costs. In order to achieve that, we reduced the ID of the typical GPC/SEC analytical column.



- ● ● *Decrease solvent consumption*
- ● ● *Retain same elution profile*
- ● ● *Reduce solvent disposal costs*

Note: With narrow bore GPC/SEC columns, the volume in which the sample elutes is significantly decreased, thus increasing the effective concentration of the sample. In GPC this leads to overloading effects and proportionally lower sample loadings must be used.



The ultimate GPC reference poster for

- ● ● *Proper column selection*
- ● ● *Easy solvent switching*
- ● ● *Optimizing injection volume*

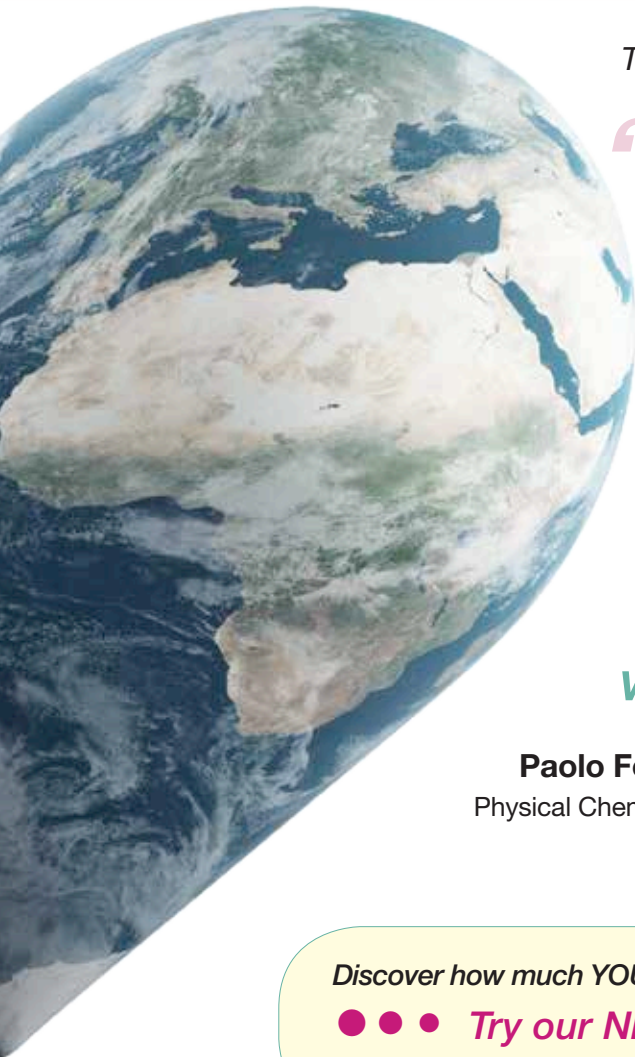
Download your poster online today at:
www.phenomenex.com/Phenogel

Cost Savings Calculation

when using Phenogel™ Narrow Bore columns

Would you like to see how much money your laboratory could save by using Phenogel Narrow Bore columns?

Take a look at this customer's success!



“ By using Phenogel columns with 4.6mm ID for the analysis of our fluorinated polymers, we were able to reduce the flow from 1.0 to 0.3 mL/min, thus saving 70% of the solvent costs. This translates in a saving of 10,000 €/year on the fluid we use, or 6,000 €/year when considering the THF cost. ”

Paolo Fossati, Solvay

Physical Chemistry Laboratory

Discover how much YOU will save when switching to Phenogel Narrow Bore columns!

● ● ● *Try our NEW solvent savings calculator web tool @*
www.phenomenex.com/GPCSavings

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Ordering Information

5 µm Columns (mm)		SecurityGuard™ Cartridges* (mm)		Guards
		300 x 7.8	4 x 3.0	50 x 7.8
Pore Size	MW Range		/3pk	
50 Å	100-3 K	00H-0441-K0	AJO-9292	03B-2088-K0
100 Å	500-6 K	00H-0442-K0	AJO-9292	03B-2088-K0
500 Å	1 K-15 K	00H-0443-K0	AJO-9292	03B-2088-K0
10 ³ Å	1 K-75 K	00H-0444-K0	AJO-9292	03B-2088-K0
10 ⁴ Å	5 K-500 K	00H-0445-K0	AJO-9292	03B-2088-K0
10 ⁵ Å	10 K-1,000 K	00H-0446-K0	AJO-9292	03B-2088-K0
10 ⁶ Å	60 K-10,000 K	00H-0447-K0	AJO-9292	03B-2088-K0
		300 x 7.8	4 x 3.0	50 x 7.8
Mixed Beds			/3pk	
Linear(2)	100-10,000 K	00H-3259-K0	AJO-9292	03B-2088-K0

for 3.2-8.0 mm ID

5 µm Narrow Bore (NB) Columns (mm)		SecurityGuard Cartridges* (mm)		Guards
		300 x 4.6	4 x 3.0	30 x 4.6
Pore Size	MW Range		/3pk	
50 Å	100-3 K	00H-0441-E0	AJO-9292	03A-2088-E0
100 Å	500-6 K	00H-0442-E0	AJO-9292	03A-2088-E0
500 Å	1 K-15 K	00H-0443-E0	AJO-9292	03A-2088-E0
10 ³ Å	1 K-75 K	00H-0444-E0	AJO-9292	03A-2088-E0
10 ⁴ Å	5 K-500 K	00H-0445-E0	AJO-9292	03A-2088-E0
10 ⁵ Å	10 K-1,000 K	00H-0446-E0	AJO-9292	03A-2088-E0
10 ⁶ Å	60 K-10,000 K	00H-0447-E0	AJO-9292	03A-2088-E0
		300 x 4.6	4 x 3.0	30 x 4.6
Mixed Beds			/3pk	
Linear(2)	100-10,000 K	00H-3259-E0	AJO-9292	03A-2088-E0

for 3.2-8.0 mm ID

10 µm Columns (mm)		SecurityGuard Cartridges* (mm)		Guards
		300 x 7.8	4 x 3.0	50 x 7.8
Pore Size	MW Range		/3pk	
50 Å	100-3 K	00H-0641-K0	AJO-9292	03B-2090-K0
100 Å	500-6 K	00H-0642-K0	AJO-9292	03B-2090-K0
500 Å	1 K-15 K	00H-0643-K0	AJO-9292	03B-2090-K0
10 ³ Å	1 K-75 K	00H-0644-K0	AJO-9292	03B-2090-K0
10 ⁴ Å	5 K-500 K	00H-0645-K0	AJO-9292	03B-2090-K0
10 ⁵ Å	10 K-1,000 K	00H-0646-K0	AJO-9292	03B-2090-K0
10 ⁶ Å	60 K-10,000 K	00H-0647-K0	AJO-9292	03B-2090-K0
		300 x 7.8	4 x 3.0	50 x 7.8
Mixed Beds			/3pk	
Linear(2)	100-10,000 K	00H-3260-K0	AJO-9292	03B-2090-K0

for 3.2-8.0 mm ID

Guard Cartridge Holder		
Part No.	Description	Price
KJO-4282	Reusable holder (SecurityGuard kit)	/ kit

*SecurityGuard Analytical Cartridges require holder, Part No.: KJO-4282

Note: SecurityGuard is not compatible with HFIP solvent.



If Phenogel analytical columns do not provide at least equivalent separation as compared to a competing column of the similar particle size, phase, and dimensions, send in your comparative data to a similar product with the Phenogel column within 45 days for a FULL REFUND.

For more information on Phenogel columns, please contact your consultant or visit www.phenomenex.com/Phenogel

5 µm Preparative Columns (mm)		Guards	
		300 x 21.2	50 x 21.2
Pore Size	MW Range		
100 Å	500-6 K	00H-0442-P0	03B-0642-P0

10 µm Preparative Columns (mm)		Guards	
		300 x 21.2	50 x 21.2
Pore Size	MW Range		
100 Å	500-6 K	00H-0642-P0	03B-0642-P0

Please contact your Phenomenex representative for information about other shipping solvents.

Phenogel Columns are a Recommended Alternative to:

Manufacturer	Columns	
Agilent® (Polymer Labs)	PLgel™	
Jordi Labs	Jordi Gel™ DVB Jordi Gel DVB Fluorinated	Jordi Gel DVB Glucose
Polymer Standards Service (PSS)	SDV® GRAM PolarSil	PFG POLEFIN®
Shodex®	GPC K-800 Series GPC KF-800 Series	GPC KD-800 Series
Tosoh Bioscience®	TSKgel® SuperMultiporeHZ TSKgel SuperHZ TSKgel Hxl	TSKgel SuperH TSKgel Hhr
Waters®	Styragel® UltraStyragel™	ACQUITY® APC™