

If Bondclone does not provide you with at least equivalent separations to a μ Bondapak column of the same phase, particle size and comparable dimension, send in your comparative data within 45 days and keep the Bondclone column for FREE.

Transfer most developed methods to Bondclone™ from μ Bondapak® without modification

- Highly reproducible
- Long column life
- Closely mimics performance of Waters μ Bondapak®
- Substantial savings per column

Phenomenex Bondclone columns have been developed to provide chromatographic behavior that attempts to duplicate that of Waters μ Bondapak columns. Bondclone offers the advantages of being highly reproducible, readily available, and lower in cost.

Phenomenex Bondclone columns have been thoroughly evaluated in our own laboratories, by independent contract laboratories, and by our customers who volunteered their time and effort to compare Phenomenex Bondclone with Waters μ Bondapak columns. The results show that Phenomenex Bondclone columns are an excellent alternative to Waters μ Bondapak columns for methods developed on μ Bondapak.

Product Comparisons

Table 1 shows surface area, pore volume and pore size properties of Bondclone silica.

Figures 1a and 1b show scanning electron micrographs of Bondclone silica and Waters μ Porasil™ (which is the silica used by Waters to make μ Bondapak).

The physical appearances and properties of these two materials are quite similar. The chromatograms on the following pages show comparisons between Bondclone and Waters μ Bondapak and μ Porasil columns.

Bondclone Reproducibility

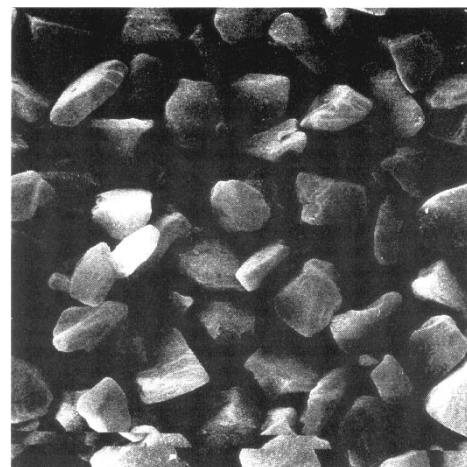
Phenomenex Bondclone material is made in huge batches (several years' supply at a time), so column-to-column reproducibility is excellent. Bondclone columns are always in stock and available for immediate shipment.

Table 1. Bondclone Silica Physical Properties

Nominal Particle Size	BET Surface Area	Pore Volume*	Pore Size**
10 μ m	296.0 m ² /g	1.1 cc/g	148.7 Å

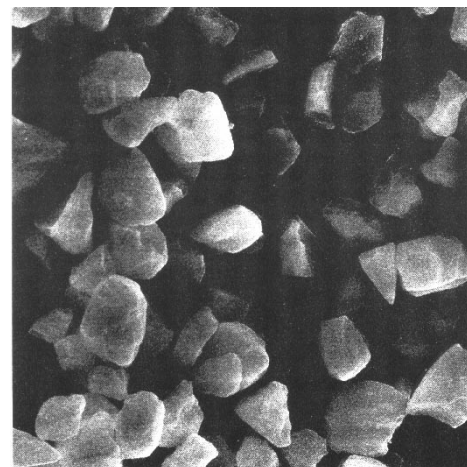
*Single point total pore volume.
 **Average pore diameter (4V/A by BET).
 Data provided by an independent laboratory.

Figure 1a



SEM of Waters μ Porasil silica packing material, (1000x magnification).

Figure 1b



SEM of Phenomenex Bondclone silica packing material, (1000x magnification).

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ORDERING INFORMATION AND CROSS-REFERENCE CHART

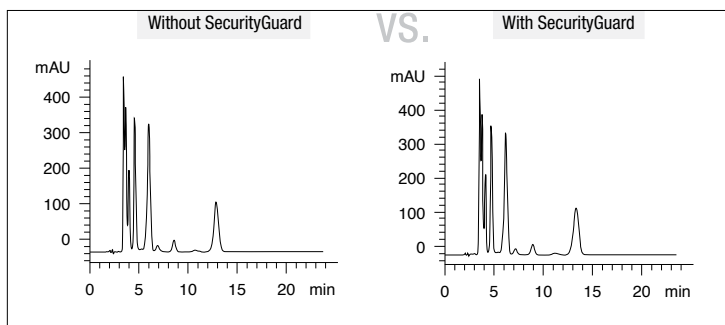
Waters		Phenomenex		
Description (mm)	Part No.	Part No.	Description (mm)	Price
μ Bondapak C18 300 x 3.9	WAT027324	00H-2117-C0	Bondclone C18 300 x 3.9	
μ Bondapak C18 150 x 3.9	WAT086684	00F-2117-C0	Bondclone C18 150 x 3.9	
—	—	00G-2117-E0	Bondclone C18 250 X 4.6	
μ Bondapak C18 Radial-Pak Cartridge 100 x 8	WAT085721	00D-2117-L0	Bondclone C18 100 x 8 (S.S. Column)	
μ Bondapak Phenyl 300 x 3.9	WAT027198	00H-3129-C0	Bondclone Phenyl† 300 x 3.9	
μ Bondapak CN 150 x 3.9	WAT086688	00F-3127-C0	Bondclone CN 150 x 3.9	
—	—	00H-3127-C0	Bondclone CN 300 x 3.9	
μ Bondapak NH ₂ 300 x 3.9	WAT084040	00H-3128-C0	Bondclone NH ₂ 300 x 3.9	
μ Porasil Silica 300 x 3.9	WAT027477	00H-2119-C0	Bondclone Silica 300 x 3.9	

†Bondclone phenyl phase uses a different silica than other phases in the Bondclone series.

Column Protection

SecurityGuard™, our universal guard cartridge system, is compatible with both Waters μ Bondapak and Phenomenex Bondclone columns. SecurityGuard will not affect system efficiency, retention time or backpressure (Figure 2).

Figure 2. Column Performance of μ Bondapak C18 150 x 3.9 mm



Compare - virtually
NO change!

SecurityGuard™ Analytical Cartridges require universal holder Part No.: KJO-4282
4 x 2.0 for column ID: 2.0-3.0 mm
4 x 3.0 for column ID: 3.2-8.0 mm

ORDERING INFORMATION

Guard Columns	Silica	C18	Phenyl	CN	NH ₂	CHO	Price
Conventional Guard Columns							
30 x 3.9	—	03A-2117-C0	—	—	—	—	
SecurityGuard™ Cartridges 10/pk							
4 x 2.0	AJO-4347	AJO-4286	AJO-4350	AJO-4304	AJO-4301	Inquire	
4 x 3.0	AJO-4348	AJO-4287	AJO-4351	AJO-4305	AJO-4302	Inquire	

Bondclone™ is a trademark of Phenomenex, Inc.

μ Bondapak® is a registered trademark of Waters Corporation. μ Porasil™ is a trademark of Waters Corporation.