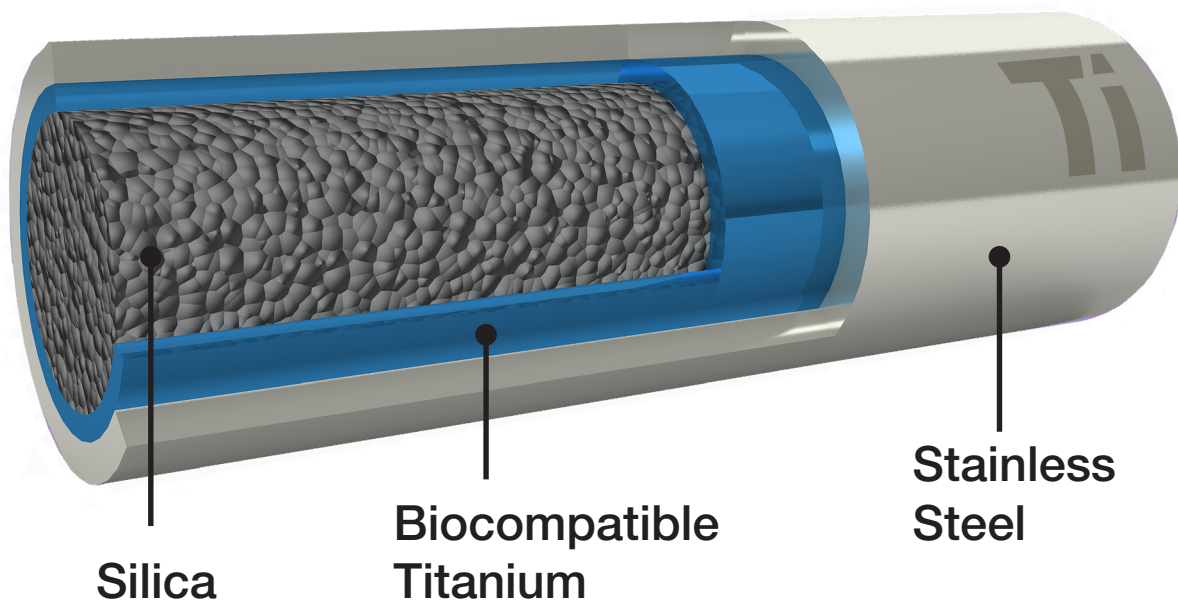


# UNPARALLELED UHPLC/HPLC INERTNESS FOR BIOLOGICS



[www.phenomenex.com/bioTi](http://www.phenomenex.com/bioTi)

**phenomenex**<sup>®</sup>  
...breaking with tradition<sup>SM</sup>

# Biocompatible Hardware “Primed” to Help You!

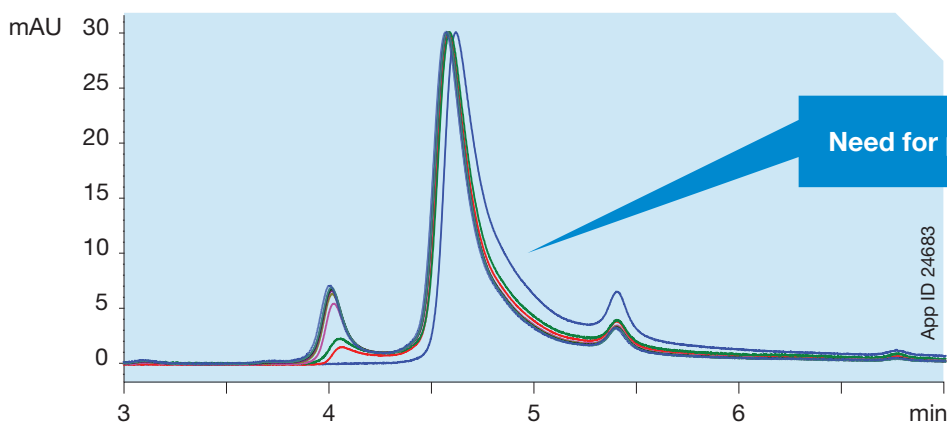
We've minimized the need for priming with a new titanium infused biocompatible hardware and frit that doesn't interfere with protein or peptide integrity!

## BioTi™ HPLC/UHPLC hardware is designed to curtail:

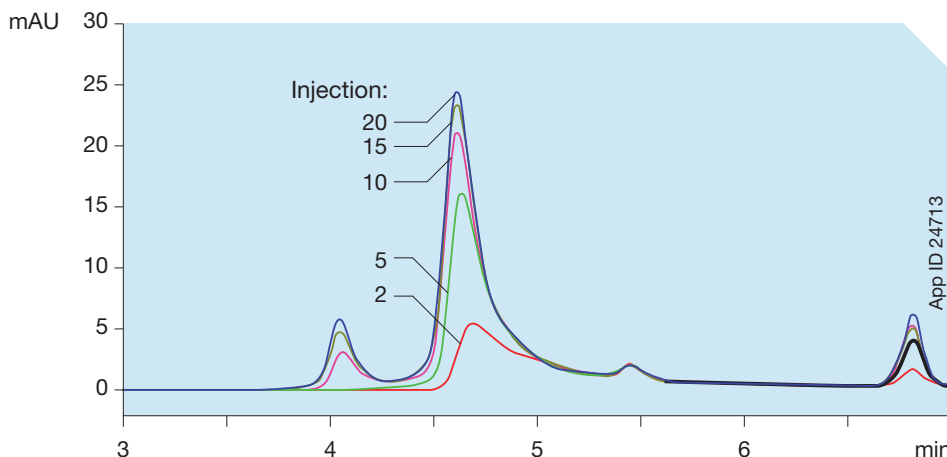
- UNWANTED SECONDARY INTERACTIONS
- PROBLEMATIC CARRYOVER
- RECOVERY ISSUES BETWEEN INJECTION TO DETECTION

### Overlaid Successive Injections – Protein Priming Comparison

#### bioZen™ Titanium BioTi Hardware



#### Traditional Stainless Steel



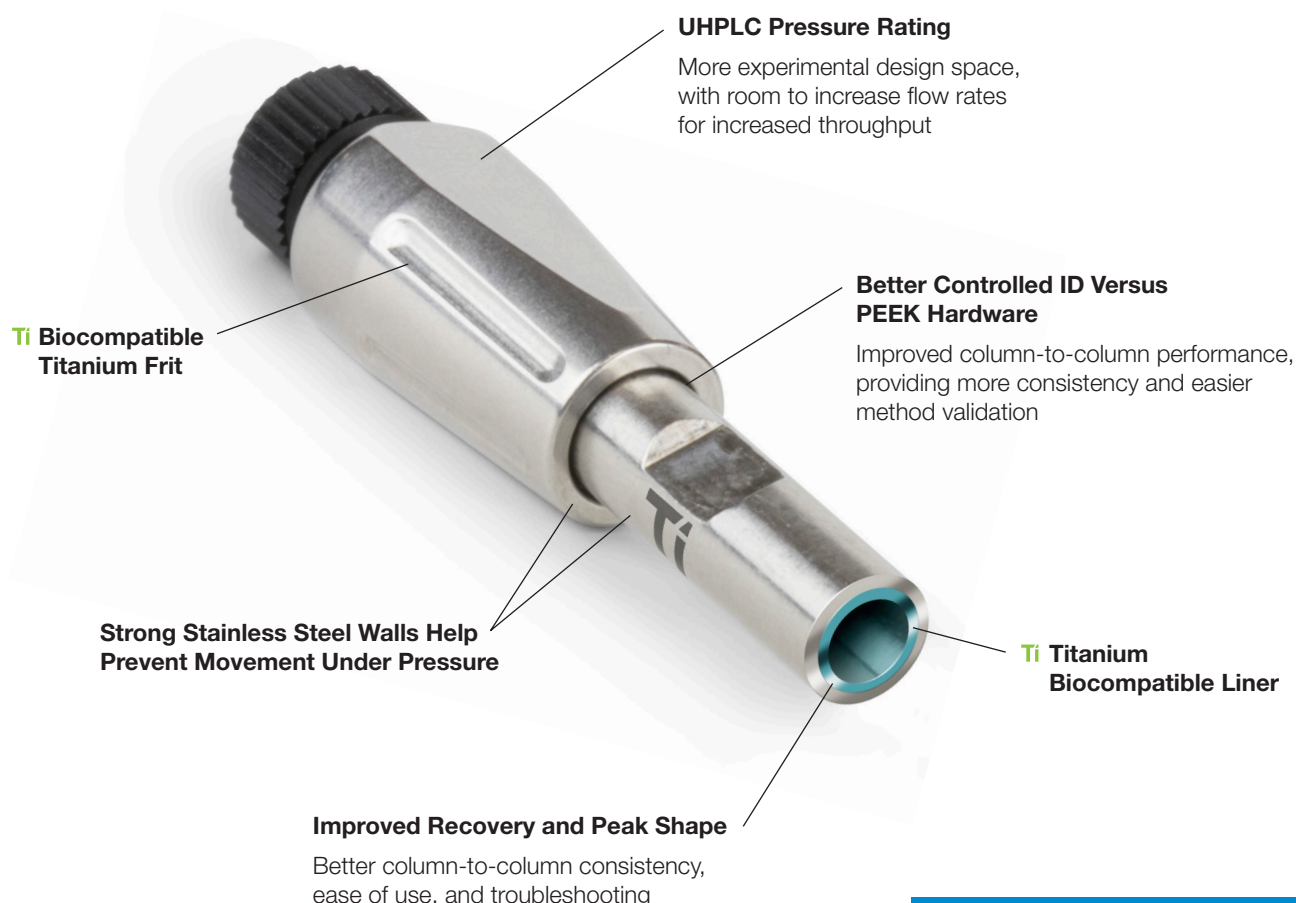
#### Conditions for both columns:

- Dimension:** 150 x 4.6 mm
- Mobile Phase:** 100 mM Sodium Phosphate Buffer (pH 6.8)
- Flow Rate:** 0.3 mL/min
- Temperature:** Ambient
- Detection:** UV @ 280 nm
- Sample:** 1.  $\gamma$ -Globulin  
2. Ovalbumin

# BioTi™ Hardware Product Features!

A biocompatible HPLC/UHPLC hardware affords scientists with a bioinert pathway between injection and detection.

## Inside bioZen™ Biocompatible Hardware:



### BioTi Questions

Ask a ZenMaster:

[www.phenomenex.com/bioZenChat](http://www.phenomenex.com/bioZenChat)

# bioZen™ Columns Available in Biocompatible Hardware

With a single innovative product line, bioZen separation products provide enhanced characterization over an incredibly wide range of techniques.

## Two Particle Platforms



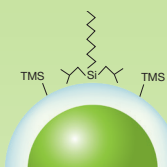
Thermally Modified Fully Porous

High Efficiency  
Excellent Inertness  
Increased Sensitivity  
Exceptional Quality and Robustness



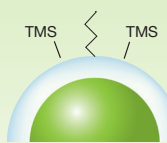
Core-Shell Technology

### Intact



**bioZen Intact XB-C8**  
3.6 μm

Large pore core-shell particle for fast intact biologic entry. C8 provides highly useful moderate hydrophobic selectivity.



**bioZen Intact C4**  
3.6 μm

Large pore core-shell particle for fast intact biologic entry. C4 stationary phase provides highly sought after low hydrophobic retention, especially important for highly retentive biologics.

### Size Exclusion (SEC)



**bioZen SEC-2**  
1.8 μm

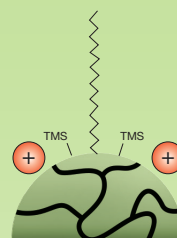
Extremely inert, high density fully porous particle with high efficiency and low molecular weight (LMW) separation range of 1K–450 kDa.



**bioZen SEC-3**  
1.8 μm

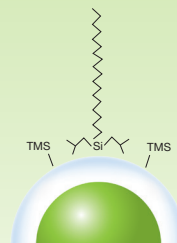
Extremely inert, high density fully porous particle with high efficiency and high molecular weight (HMW) separation range of 10K–700 kDa.

### Peptide



**bioZen Peptide PS-C18**  
1.6 μm and 3 μm

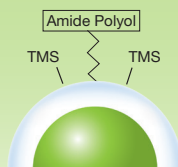
Excellent retention by combined positively charged surface ligand and C18 ligand.



**bioZen Peptide XB-C18**  
1.7 μm and 2.6 μm

Overall retention of both acidic and basic peptides through C18 stationary phase with di-isobutyl side chains.

### Glycan



**bioZen Glycan**  
2.6 μm

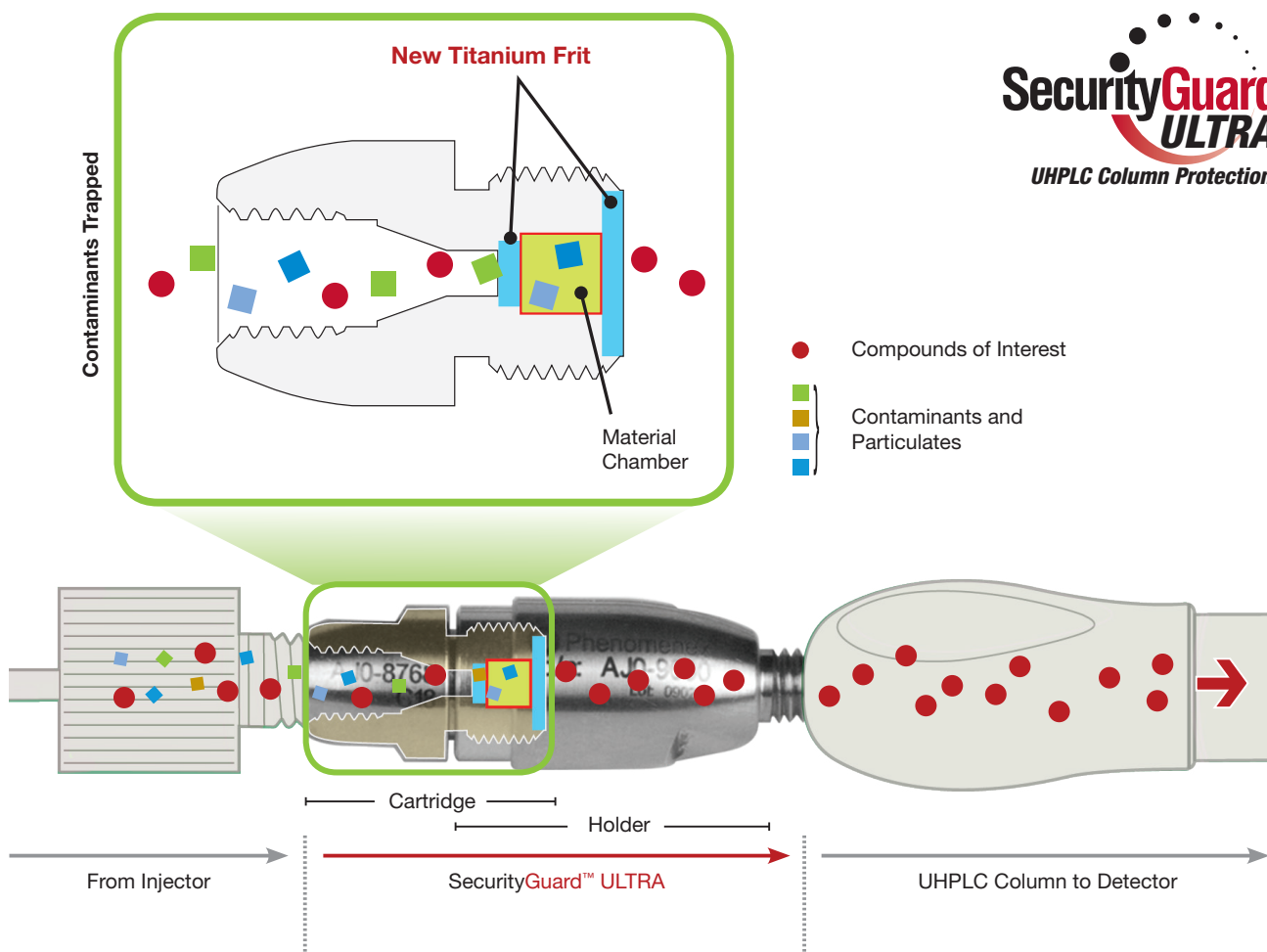
Provides optimal combination of high efficiency and selectivity for released glycans.

# Biocompatible Column Protection System

Extend column performance and minimize costly system and detector upkeep by preventing contaminants and particulates from getting into your column with a guard system.



## SecurityGuard™ ULTRA Guard Cartridge System with Titanium



\* Cartridge schematic not drawn to scale

# Biocompatible Vials, Filters, and Syringes

Large molecules such as proteins and peptides are easily adsorbed onto even the most inert positively or negatively charged sites on the surfaces therefore biocompatible accessories are a must!

## Accessories You Can Trust



### Plastic Disposable Syringes:

- Use for all syringe filter applications
- Luer-lock outlet easy connection
- 3 to 20 mL capacities
- Ultra-clean, high-purity plastic



### Syringe Filters Reduce:

- Extraneous peaks
- False quantitation
- Sample co-elution
- Instrument damage



### Plastic Vials Provide:

- Inert and free from clarifiers and antioxidants
- 100 % virgin medical grade polypropylene
- No contribution to adsorption, pH change, or baseline noise



Contaminants and Particulates Trapped



### Polyethersulfone (PES) Membrane:

- Hydrophilic membrane
- Fast flow
- High-throughput characteristics
- Ultra-low protein binding

Contaminants and Particulates-Free Sample

# Product Ordering Information

## bioZen™ Products - Powered by Biocompatible Hardware

bioZen Columns (mm)						Biocompatible Guard Cartridges		
	100 x 2.1	150 x 2.1				for 2.1 mm	Holder	
bioZen 2.6 µm Glycan	00D-4773-AN	00F-4773-AN				AJO-9800	AJO-9000	
	50 x 2.1	150 x 2.1				for 2.1 mm	Holder	
bioZen 1.6 µm Peptide PS-C18	00B-4770-AN	00F-4770-AN				AJO-9803	AJO-9000	
	50 x 4.6	150 x 4.6				for 4.6 mm	Holder	
bioZen 3 µm Peptide PS-C18	00B-4771-E0	00F-4771-E0					AJO-7606	KJO-4282
	50 x 2.1	150 x 2.1				for 2.1 mm	Holder	
bioZen 1.7 µm Peptide XB-C18	00B-4774-AN	00F-4774-AN				AJO-9806	AJO-9000	
	50 x 2.1	150 x 2.1	250 x 2.1	50 x 4.6	150 x 4.6	for 2.1 mm	for 4.6 mm	Holder
bioZen 2.6 µm Peptide XB-C18	00B-4768-AN	00F-4768-AN	00G-4768-AN	00B-4768-E0	00F-4768-E0	AJO-9806	AJO-9808	AJO-9000
	50 x 2.1	150 x 2.1	50 x 4.6	150 x 4.6		for 2.1 mm	for 4.6 mm	Holder
bioZen 3.6 µm Intact C4	00B-4767-AN	00F-4767-AN	00B-4767-E0	00F-4767-E0		AJO-9809	AJO-9811	AJO-9000
bioZen 3.6 µm Intact XB-C8	00B-4766-AN	00F-4766-AN	00B-4766-E0	00F-4766-E0		AJO-9812	AJO-9814	AJO-9000
	150 x 4.6	300 x 4.6					for 4.6 mm	Holder
bioZen 1.8 µm SEC-2	00F-4769-E0	00H-4769-E0					AJO-9850	AJO-9000
bioZen 1.8 µm SEC-3	00F-4772-E0	00H-4772-E0					AJO-9851	AJO-9000

## Verex™ Biocompatible Vials



Screw Top Vials							
Type	Material	Finish	Total Volume	Residual Volume	Caps (Included)	Part Number 100/pk	Part Number 1000/pk
Plastic Vial	Polypropylene	9 mm Screw Thread	700 µL	<5 µL	PTFE/Silicone	ARO-9993-12-C	ARO-9993-13-C
Plastic Vial	Polypropylene	9 mm Screw Thread	700 µL	<5 µL	PTFE/Silicone, preSlit	ARO-9994-12-C	ARO-9994-13-C
Plastic Vial	Polypropylene	9 mm Screw Thread	300 µL	<2 µL	PTFE/Silicone	ARO-9991-12	ARO-9991-13
Plastic Vial	Polypropylene	9 mm Screw Thread	300 µL	<2 µL	PTFE/Silicone, preSlit	ARO-9992-12	ARO-9992-13



Snap Top Vials							
Type	Material	Finish	Total Volume	Residual Volume	Caps (Included)	Part Number 100/pk	Part Number 1000/pk
Plastic Vial	Polypropylene	11 mm Snap Top	300 µL	<2 µL	PTFE/Silicone	ARO-9691-12-C	ARO-9691-13-C
Plastic Vial	Polypropylene	11 mm Snap Top	300 µL	<2 µL	PTFE/Silicone, preSlit	ARO-9692-12-C	ARO-9692-13-C

## Phenex™ Biocompatible Syringe Filters

Membrane Type/Size	28 mm Diameter for 10 - 100 mL sample volumes	
	Part No.	Unit
<b>0.45 µm</b>		
Phenex-PES <sup>1</sup>	AF0-8108-12	100/pk
(Polyethersulfone)	AF0-8108-52	500/pk
<b>0.20 µm</b>		
Phenex-PES <sup>1</sup>	AF0-8208-12	100/pk
(Polyethersulfone)	AF0-8208-52	500/pk

1. Housing material is methacrylate butadiene styrene (MBS) polymerisate. Also known as Cyrolite®.



If Phenomenex products in this guide do not provide at least an equivalent separation as compared to other products of the same phase and dimensions, return the Phenomenex column with comparative data within 45 days for a FULL REFUND.

## Plastic Disposable Syringes

Disposable Syringes			
Part No.	Description	Capacity (mL)*	Unit
AS0-8408	Plastic Disposable Syringes, Luer-lock	3	100/pk
AS0-8409	Plastic Disposable Syringes, Luer-lock	5	100/pk
AS0-8410	Plastic Disposable Syringes, Luer-lock	10	100/pk
AS0-8411	Plastic Disposable Syringes, Luer-lock	20	100/pk

\*Choose larger volume syringe to reduce force on syringe filter membrane. 10mL syringe is recommended.

# UNPARALLELED UHPLC/HPLC INERTNESS FOR BIOLOGICS

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SecurityGuard is patented by Phenomenex. U.S. Patent No. 6,162,362

CAUTION: this patent only applies to the analytical-sized guard cartridge holder, and does not apply to SemiPrep, PREP or ULTRA holders, or to any cartridges.

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