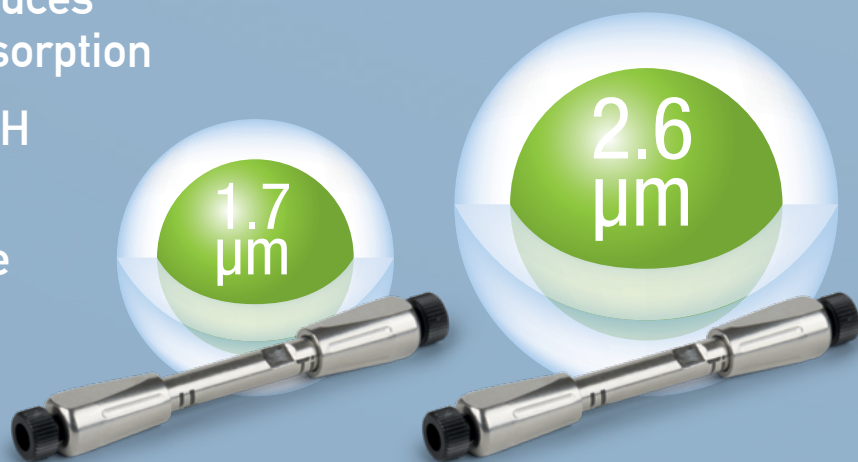




# Advanced Oligonucleotide Analysis

Increased Recovery and Reproducibility  
with **NEW bioZen Oligo**

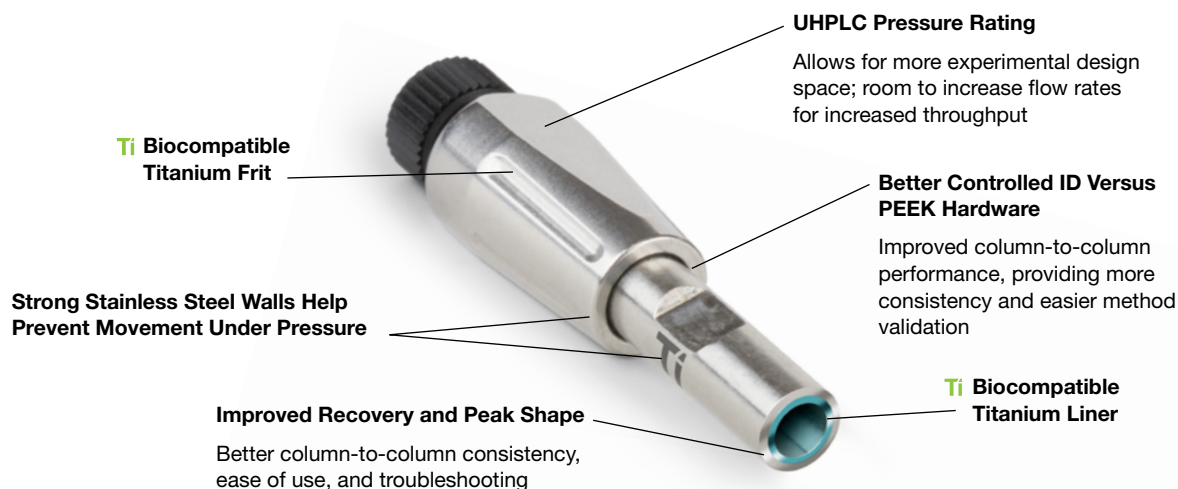
- BioTi™ Hardware Reduces Sample Loss and Adsorption
- Robustness at High pH and Temperature
- Core-Shell Advantage for High Efficiency



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

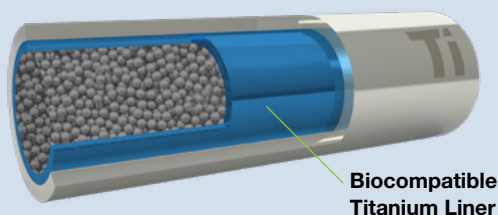
# Inside the bioZen Oligo Biocompatible Hardware Difference

The use of bio-inert hardware not only improves the chromatographic performance and consistency of oligonucleotides, but also provides improvements in sensitivity, enabling both quantitation and characterization.

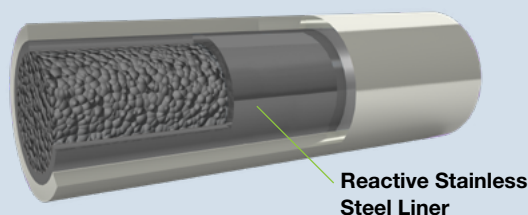


## BioTi LC Hardware Reduces Adsorptive Interactions and Sample Loss

**Biocompatible Column Hardware**

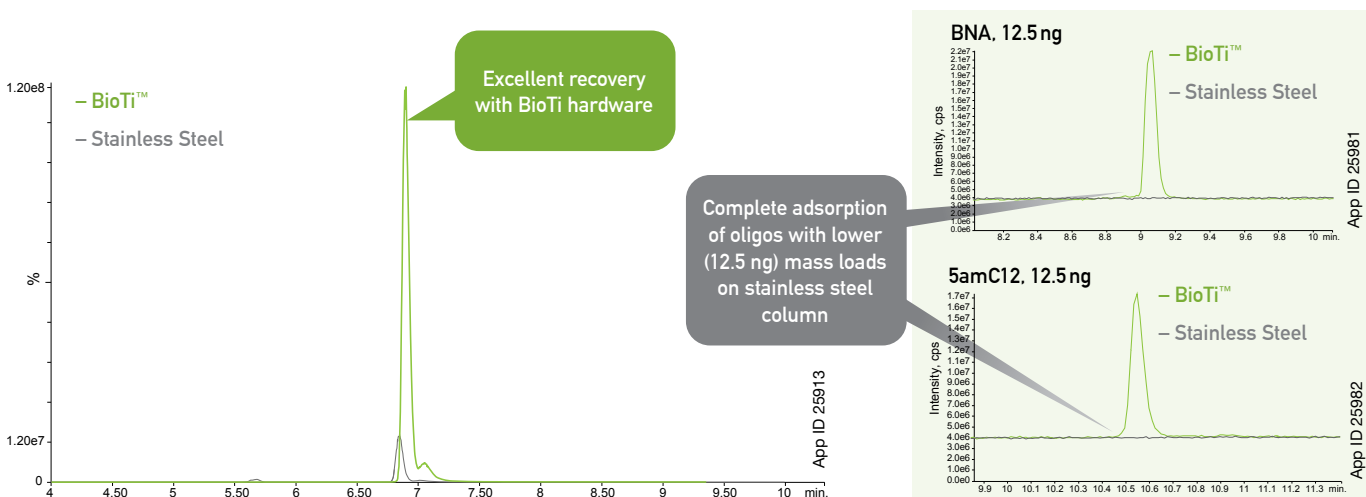


**Stainless Steel Column Hardware**



## BioTi versus Traditional Stainless Steel Hardware

Oligos can chelate to trace heavy metals in stainless steel column hardware, leading to poor recovery, inconsistent chromatography and problematic carryover. The bioZen Oligo bio-inert hardware provides greater sensitivity as well as improved recovery, demonstrating this column's optimal utility for oligonucleotide characterization and quantitation.

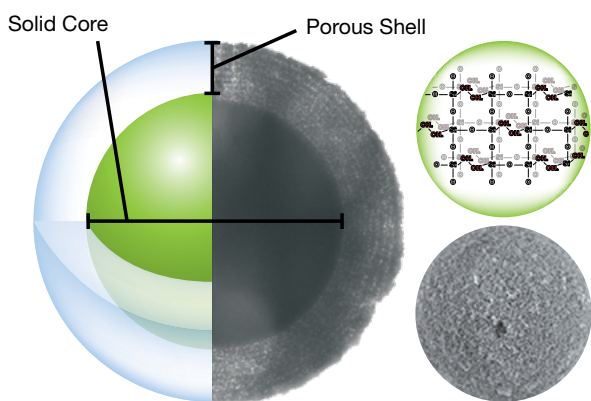


BioTi ensures method robustness and consistency from injection to injection!

# Advanced Technology and Core-Shell Particle Chemistry

The bioZen™ Oligo Columns utilize organo-silica core-shell particles with a highly consistent morphology that reduces band broadening associated with diffusion and mass transfer, leading to higher efficiency and minimal peak widths, which is critical for the separation of closely eluting impurities associated to synthetic oligonucleotides.

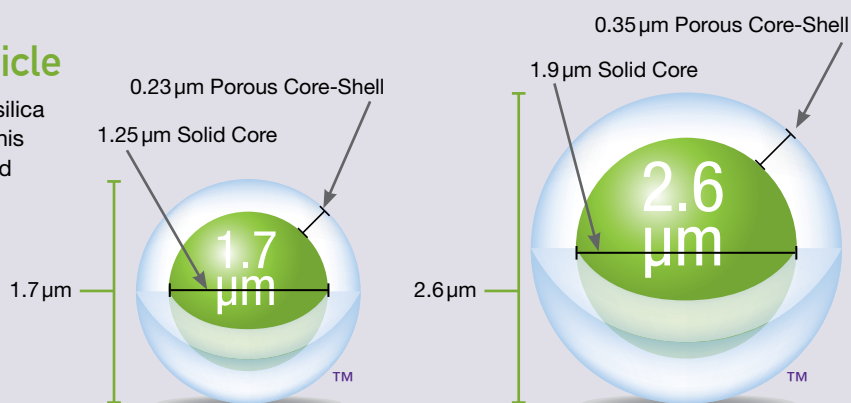
## Core-Shell Particle Chemistry



bioZen Oligo uses a organo-silica grafting process that incorporates uniform stabilizing ethylene cross-linking to provide resistance to high pH and temperature which are fundamental to reversed phase analysis of oligonucleotides.

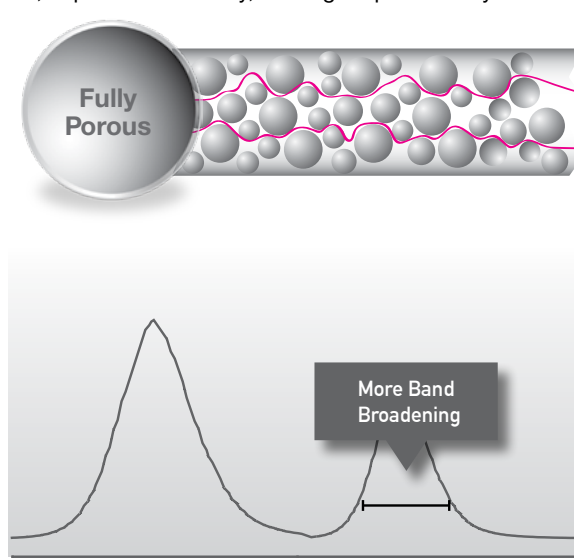
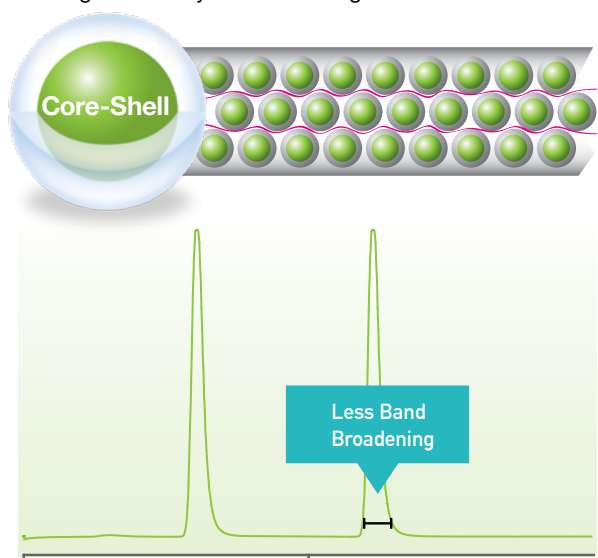
## High Efficiency Core-Shell Particle

After meticulous core construction, a uniform porous silica layer is grown around the spherical solid silica core. This unique combination of precise particle architecture and particle size provides dramatic leaps in performance.



## Better Performance than Fully Porous Particles

Core-Shell Technology provides extremely high efficiencies for both low and high oligo concentrations. Industry leading column packing technology in combination with high particle consistency and density helps create a bed structure which reduces band broadening effects of Eddy Diffusion to produce highly reproducible columns that generate greater performance compared to fully porous particles. This ultra-high efficiency can be leveraged to achieve increased resolution, improved sensitivity, and higher productivity.



# bioZen Oligo Applications

The newest addition to the bioZen™ portfolio brings a unique combination of core-shell versatility and high pH ruggedness necessary for oligonucleotide separations. Additionally, bioZen Oligo is packed in a unique bio-inert titanium hardware designed to reduce the sample loss and adsorption issues typically seen with stainless steel hardware.

Explore the following bioZen Oligo Resources:



Column Hardware Impact on Oligonucleotides

Chromatographic Comparison using bioZen Oligo

Method Optimization for Oligonucleotides



Interested in learning more about these applications?

Chat with our Oligo Experts

**chat now**

Quotes, Methods, Tips... We're here to help



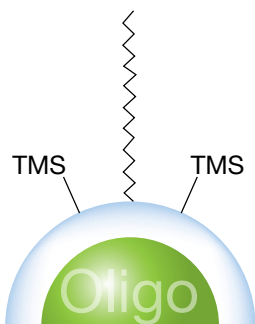
# Introducing bioZen™ Oligo

## A New Solution for Oligonucleotide Analysis and Characterization

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

### Oligonucleotide

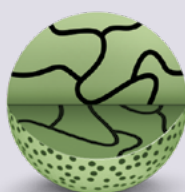
**NEW**



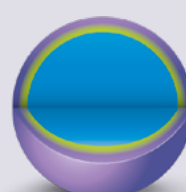
**bioZen Oligo**  
1.7 μm and 2.6 μm

Organo-silica core-shell bonded particle with a pH 1-12 stable C18 stationary phase that delivers speed, robust methods, and improved peak shape for Oligo analysis.

## 3 Particle Platforms



Thermally Modified Fully Porous



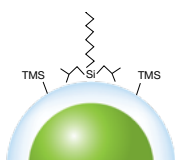
Monosized Polymeric Non-Porous



Core-Shell Technology

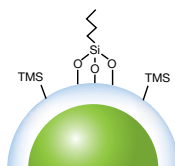
## 9 Particle Chemistries

### Intact/Subunit



**bioZen Intact XB-C8**  
3.6 μm

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



**bioZen WidePore C4**  
2.6 μm

Core-shell particle with butyl stationary phase and optimal wide pore size distribution for better resolution of large biologics, including monoclonal antibodies and subunit analysis.

### Size Exclusion (SEC)



**bioZen SEC-2**  
1.8 μm

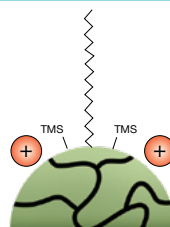
Extremely inert, high density fully porous particle with high efficiency and low molecular weight (LMW) separation range of 1 k–450 kDa.



**bioZen SEC-3**  
1.8 μm

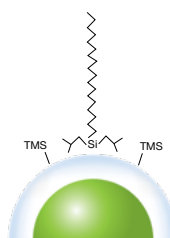
Extremely inert, high density fully porous particle with high efficiency and high molecular weight (HMW) separation range of 10 k–700 kDa.

### Peptide



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

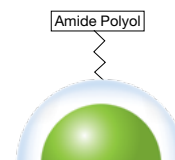
Excellent retention by combined positively charged surface ligand and C18 ligand.



**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.

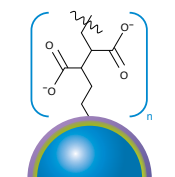
### Glycan



**bioZen Glycan**  
2.6 μm

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

### Ion-Exchange



**bioZen WCX**  
6 μm

Monosized particles grafted with linear polycarboxylate chains to envelop and separate proteins from acidic/basic variants



# Ordering Information

## bioZen™ Products - Powered by Biocompatible Hardware

bioZen Columns (mm)									Biocompatible Guard Cartridges		
	50 x 2.1	100 x 2.1	150 x 2.1	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6	for 2.1 mm	for 4.6 mm	Holder	
								3/pk		ea	
bioZen 2.6 µm Glycan	<a href="#">00B-4773-AN</a>	<a href="#">00D-4773-AN</a>	<a href="#">00F-4773-AN</a>	—	—	—	—	<a href="#">AJ0-9800</a>	—	<a href="#">AJ0-9000</a>	
								3/pk		ea	
bioZen 1.6 µm Peptide PS-C18	<a href="#">00B-4770-AN</a>	<a href="#">00D-4770-AN</a>	<a href="#">00F-4770-AN</a>	—	—	—	—	<a href="#">AJ0-9803</a>	—	<a href="#">AJ0-9000</a>	
								10/pk	10/pk	ea	
bioZen 3 µm Peptide PS-C18	<a href="#">00B-4771-AN</a>	—	<a href="#">00F-4771-AN</a>	<a href="#">00B-4771-E0</a>	—	<a href="#">00F-4771-E0</a>	—	<a href="#">AJ0-7605</a>	<a href="#">AJ0-7606</a>	<a href="#">KJ0-4282</a>	
								3/pk		ea	
bioZen 1.7 µm Peptide XB-C18	<a href="#">00B-4774-AN</a>	<a href="#">00D-4774-AN</a>	<a href="#">00F-4774-AN</a>	—	—	—	—	<a href="#">AJ0-9806</a>	—	<a href="#">AJ0-9000</a>	
								3/pk	3/pk	ea	
bioZen 2.6 µm Peptide XB-C18	<a href="#">00B-4768-AN</a>	<a href="#">00D-4768-AN</a>	<a href="#">00F-4768-AN</a>	<a href="#">00B-4768-E0</a>	—	<a href="#">00F-4768-E0</a>	—	<a href="#">AJ0-9806</a>	<a href="#">AJ0-9808</a>	<a href="#">AJ0-9000</a>	
								3/pk	3/pk	ea	
bioZen 2.6 µm WidePore C4	<a href="#">00B-4786-AN</a>	<a href="#">00D-4786-AN</a>	<a href="#">00F-4786-AN</a>	<a href="#">00B-4786-E0</a>	<a href="#">00D-4786-E0</a>	<a href="#">00F-4786-E0</a>	<a href="#">00G-4786-E0</a>	<a href="#">AJ0-9816</a>	<a href="#">AJ0-9818</a>	<a href="#">AJ0-9000</a>	
								3/pk	3/pk	ea	
bioZen 3.6 µm Intact XB-C8	<a href="#">00B-4766-AN</a>	<a href="#">00D-4766-AN</a>	<a href="#">00F-4766-AN</a>	<a href="#">00B-4766-E0</a>	—	<a href="#">00F-4766-E0</a>	—	<a href="#">AJ0-9812</a>	<a href="#">AJ0-9814</a>	<a href="#">AJ0-9000</a>	
	50 x 2.1	100 x 2.1	150 x 2.1	250 x 2.1	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6	300 x 4.6	for 4.6 mm	Holder
										3/pk	ea
bioZen 1.8 µm SEC-2	<a href="#">00B-4769-AN</a>	—	<a href="#">00F-4769-AN</a>	—	—	<a href="#">00F-4769-E0</a>	—	<a href="#">00H-4769-E0</a>	<a href="#">AJ0-9850</a>	<a href="#">AJ0-9000</a>	
bioZen 1.8 µm SEC-3	<a href="#">00B-4772-AN</a>	—	<a href="#">00F-4772-AN</a>	—	—	<a href="#">00D-4772-E0</a>	<a href="#">00F-4772-E0</a>	—	<a href="#">00H-4772-E0</a>	<a href="#">AJ0-9851</a>	<a href="#">AJ0-9000</a>
	50 x 2.1	100 x 2.1	150 x 2.1	250 x 2.1	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6	300 x 4.6	for 4.6 mm	Holder
										10/pk	ea
bioZen 6 µm WCX	<a href="#">00B-4777-AN</a>	<a href="#">00D-4777-AN</a>	<a href="#">00F-4777-AN</a>	<a href="#">00G-4777-AN</a>	<a href="#">00B-4777-E0</a>	<a href="#">00D-4777-E0</a>	<a href="#">00F-4777-E0</a>	<a href="#">00G-4777-E0</a>	—	<a href="#">AJ0-9400</a>	<a href="#">KJ0-4282</a>
	50 x 2.1	100 x 2.1	150 x 2.1	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6		for 2.1 mm	for 4.6 mm	Holder
									3/pk	3/pk	ea
bioZen 2.6 µm Oligo	<a href="#">00B-4790-AN</a>	<a href="#">00D-4790-AN</a>	<a href="#">00F-4790-AN</a>	<a href="#">00B-4790-E0</a>	<a href="#">00D-4790-E0</a>	<a href="#">00F-4790-E0</a>	—	<a href="#">AJ0-9820</a>	<a href="#">AJ0-9822</a>	<a href="#">AJ0-9000</a>	
bioZen 1.7 µm Oligo	<a href="#">00B-4791-AN</a>	<a href="#">00D-4791-AN</a>	<a href="#">00F-4791-AN</a>	—	—	—	—	<a href="#">AJ0-9820</a>	<a href="#">AJ0-9822</a>	<a href="#">AJ0-9000</a>	

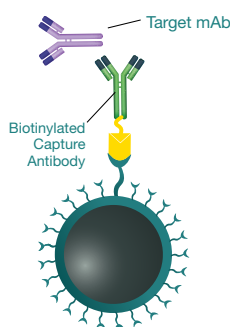
## Sample Preparation

bioZen Solid Phase Extraction	Format	Sorbent Mass	Part Number	Unit
bioZen N-Glycan Clean-Up	Microelution 96-Well Plate	5 mg/well	<a href="#">8M-S009-NGA</a>	1/box



## bioZen MagBeads Streptavidin Coated

Formats	Part No.	Concentration	Bead Size
25 mg (≈50 samples)	<a href="#">KSO-9531</a>	20 mg/mL	1.0 µm
50 mg (≈100 samples)	<a href="#">KSO-9532</a>		
500 mg (≈1000 samples)	<a href="#">KSO-9533</a>		



# Advanced Oligonucleotide Analysis

## Australia

t: +61 (0)2-9428-6444  
auiinfo@phenomenex.com

## Austria

t: +43 (0)1-319-1301  
anfrage@phenomenex.com

## Belgium

t: +32 (0)2 503 4015 (French)  
t: +32 (0)2 511 8666 (Dutch)  
beinfo@phenomenex.com

## Canada

t: +1 (800) 543-3681  
info@phenomenex.com

## China

t: +86 400-606-8099  
cninfo@phenomenex.com

## Denmark

t: +45 4824 8048  
nordicinfo@phenomenex.com

## Finland

t: +358 (0)9 4789 0063  
nordicinfo@phenomenex.com

## France

t: +33 (0)1 30 09 21 10  
franceinfo@phenomenex.com

## Germany

t: +49 (0)6021-58830-0  
anfrage@phenomenex.com

## India

t: +91 (0)40-3012 2400  
indiainfo@phenomenex.com

## Ireland

t: +353 (0)1 247 5405  
eireinfo@phenomenex.com

## Italy

t: +39 051 6327511  
italiainfo@phenomenex.com

## Luxembourg

t: +31 (0)30-2418700  
nlinfo@phenomenex.com

## Mexico

t: 01-800-844-5226  
tecnicomx@phenomenex.com

## The Netherlands

t: +31 (0)30-2418700  
nlinfo@phenomenex.com

## New Zealand

t: +64 (0)9-4780951  
nzinfo@phenomenex.com

## Norway

t: +47 810 02 005  
nordicinfo@phenomenex.com

## Poland

t: +48 22 104 21 72  
pl-info@phenomenex.com

## Portugal

t: +351 221 450 488  
ptinfo@phenomenex.com

## Singapore

t: +65 800-852-3944  
sginfo@phenomenex.com

## Spain

t: +34 91-413-8613  
espinfo@phenomenex.com

## Sweden

t: +46 (0)8 611 6950  
nordicinfo@phenomenex.com

## Switzerland

t: +41 (0)61 692 20 20  
swissinfo@phenomenex.com

## United Kingdom

t: +44 (0)1625-501367  
ukinfo@phenomenex.com

## USA

t: +1 (310) 212-0555  
info@phenomenex.com

🌐 **All other  
countries/regions  
Corporate Office USA**  
t: +1 (310) 212-0555  
info@phenomenex.com



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

Phenomenex products are available worldwide. For the distributor in your country/region, contact Phenomenex USA, International Department at [international@phenomenex.com](mailto:international@phenomenex.com)

#### Terms and Conditions

Subject to Phenomenex Standard Terms and Conditions, which may be viewed at [www.phenomenex.com/TermsAndConditions](http://www.phenomenex.com/TermsAndConditions).

#### Trademarks

bioZen and BioTi are trademarks of Phenomenex.

FOR RESEARCH USE ONLY. Not for use in clinical diagnostic procedures.

© 2020 Phenomenex, Inc. All rights reserved.