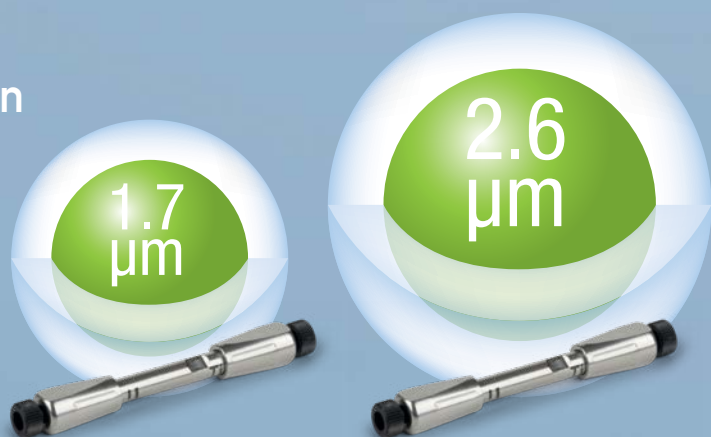




Advanced Oligonucleotide Analysis

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



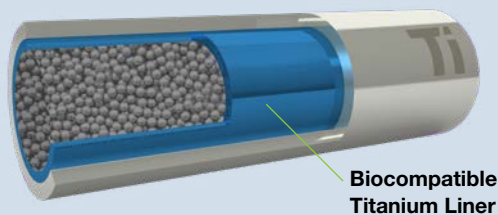
Inside the bioZen Oligo Biocompatible Hardware Difference

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.

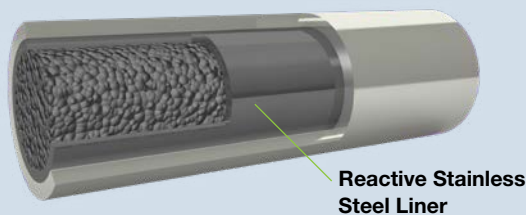


BioTi LC Hardware Minimizes Adsorptive Interactions and Sample Loss

Biocompatible Column Hardware

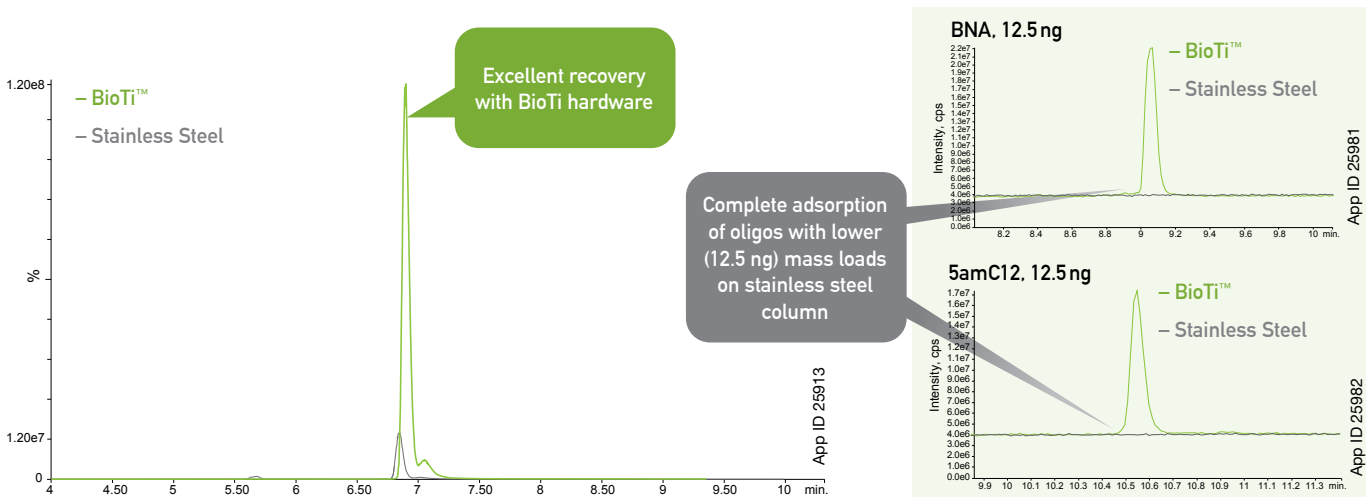


Stainless Steel Column Hardware



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.

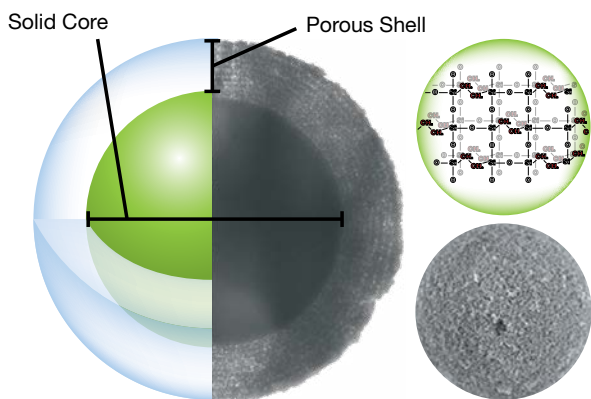


BioTi ensures method robustness and consistency from injection to injection!

Patented Technology and Advanced Core-Shell Particle Chemistry

The bioZen™ Oligo Columns utilize organo-silica core-shell particles with a highly consistent morphology that minimizes 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.

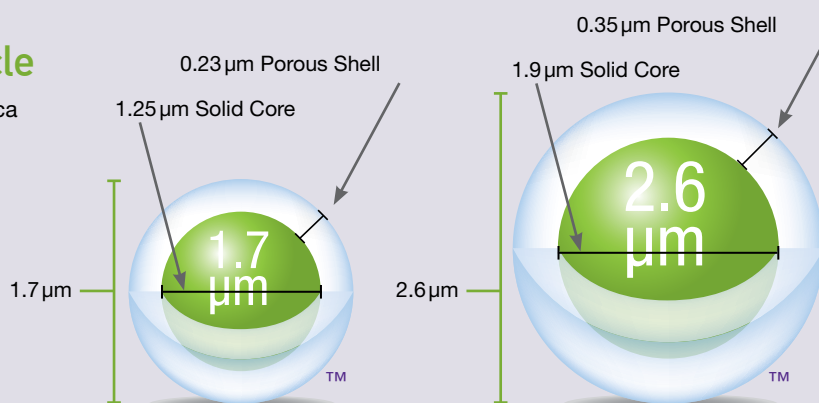
Patented Core-Shell Particle Chemistry



bioZen Oligo uses a patented 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.

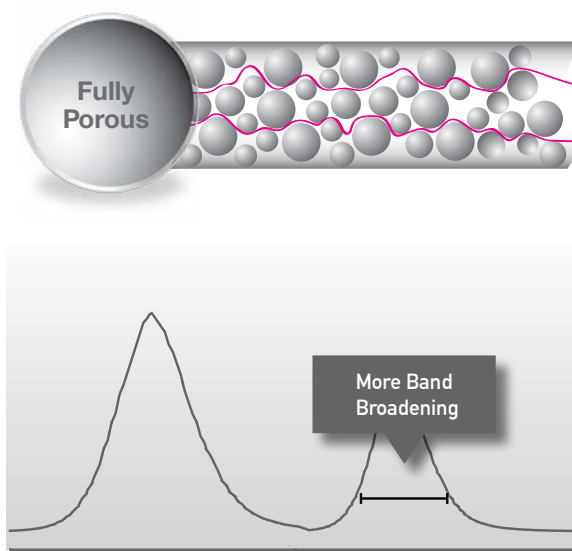
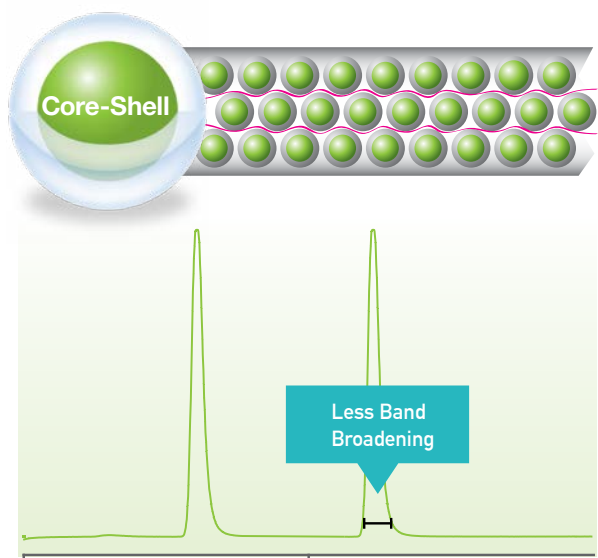
High Efficiency Core-Shell Particle

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 optimal 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 minimize the sample loss and adsorption issues typically seen with stainless steel hardware.

Explore the following bioZen Oligo Resources:



Column Hardware Impact on Oligonucleotides

[The Effect of Column Hardware on the Analysis of Synthetic Oligonucleotides by LC-MS](#)



Chromatographic Comparison using bioZen Oligo

[Comparison of Fully Porous and Superficially Porous Particles for the Analysis of Synthetic Oligonucleotides](#)

[Comparison of Polymer and Silica Based Particles for the Analysis of Synthetic Oligonucleotides](#)



Method Optimization for Oligonucleotides

[Effect of Temperature on Single Stranded Oligonucleotide Analysis](#)

[Effect of Perfluorinated Alcohols in Impurity Analysis for Synthetic Oligonucleotides](#)

[Effect of Alkylamine Based Ion-pairing Reagents in Analysis of siRNA](#)

[Impurity Analysis of a 22mer DNA Phosphorothioate](#)

Interested in learning more about these applications?

Chat with our Oligo Experts

chat now

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

www.Phenomenex.com/OligoChat

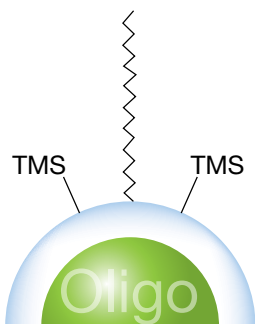
Introducing bioZen™ Oligo

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

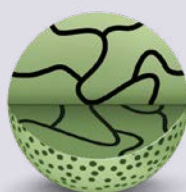
NEW



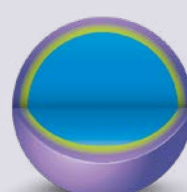
bioZen Oligo
1.7µm and 2.6µm

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



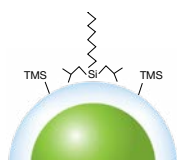
Monosized Polymeric Non-Porous



Core-Shell Technology

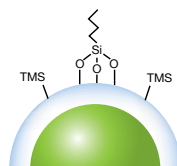
9 Particle Chemistries

Intact/Subunit



bioZen Intact XB-C8
3.6µm

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



bioZen WidePore C4
2.6µm

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
1.8µm

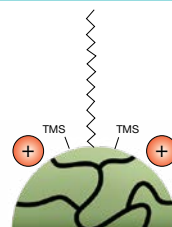
Extremely inert, high density fully porous particle with high efficiency and low molecular weight (LMW) separation range of 1 k–450 kDa.



bioZen SEC-3
1.8µm

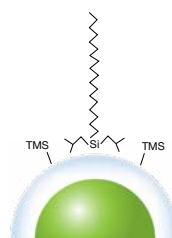
Extremely inert, high density fully porous particle with high efficiency and high molecular weight (HMW) separation range of 10 k–700 kDa.

Peptide



bioZen Peptide PS-C18
1.6µm and 3µm

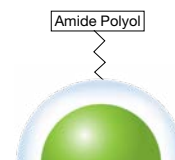
Excellent retention by combined positively charged surface ligand and C18 ligand.



bioZen Peptide XB-C18
1.7µm and 2.6µm

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

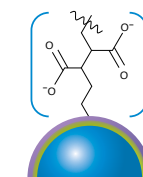
Glycan



bioZen Glycan
2.6µm

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

Ion-Exchange



bioZen WCX
6µm

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	300 x 4.6	for 2.1 mm	for 4.6 mm	Holder
									3/pk		ea
bioZen 2.6 µm Glycan	00B-4773-AN	00D-4773-AN	00F-4773-AN	—	—	—	—	—	AJ0-9800	—	AJ0-9000
									3/pk		ea
bioZen 1.6 µm Peptide PS-C18	00B-4770-AN	00D-4770-AN	00F-4770-AN	—	—	—	—	—	AJ0-9803	—	AJ0-9000
									10/pk	10/pk	ea
bioZen 3 µm Peptide PS-C18	00B-4771-AN	—	00F-4771-AN	00B-4771-E0	—	00F-4771-E0	—	—	AJ0-7605	AJ0-7606	KJ0-4282
									3/pk		ea
bioZen 1.7 µm Peptide XB-C18	00B-4774-AN	00D-4774-AN	00F-4774-AN	—	—	—	—	—	AJ0-9806	—	AJ0-9000
									3/pk	3/pk	ea
bioZen 2.6 µm Peptide XB-C18	00B-4768-AN	00D-4768-AN	00F-4768-AN	00B-4768-E0	—	00F-4768-E0	—	—	AJ0-9806	AJ0-9808	AJ0-9000
									3/pk	3/pk	ea
bioZen 2.6 µm WidePore C4	00B-4786-AN	00D-4786-AN	00F-4786-AN	00B-4786-E0	00D-4786-E0	00F-4786-E0	00G-4786-E0	—	AJ0-9816	AJ0-9818	AJ0-9000
									3/pk	3/pk	ea
bioZen 3.6 µm Intact XB-C8	00B-4766-AN	00D-4766-AN	00F-4766-AN	00B-4766-E0	—	00F-4766-E0	—	—	AJ0-9812	AJ0-9814	AJ0-9000
	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	00B-4769-AN	—	00F-4769-AN	—	—	00F-4769-E0	—	—	00H-4769-E0	AJ0-9850	AJ0-9000
bioZen 1.8 µm SEC-3	00B-4772-AN	—	00F-4772-AN	—	—	00F-4772-E0	00F-4772-E0	—	00H-4772-E0	AJ0-9851	AJ0-9000
	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	00B-4777-AN	00D-4777-AN	00F-4777-AN	00G-4777-AN	00B-4777-E0	00D-4777-E0	00F-4777-E0	00G-4777-E0	—	AJ0-9400	KJ0-4282
	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	00B-4790-AN	00D-4790-AN	00F-4790-AN	00B-4790-E0	00D-4790-E0	00F-4790-E0	—	—	AJ0-9820	AJ0-9822	AJ0-9000
bioZen 1.7 µm Oligo	00B-4791-AN	00D-4791-AN	00F-4791-AN	—	—	—	—	—	AJ0-9820	AJ0-9822	AJ0-9000

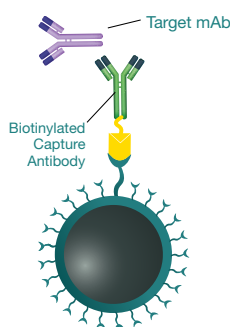
Sample Preparation

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



bioZen MagBeads Streptavidin Coated

Formats	Part No.	Concentration	Bead Size
25 mg (≈50 samples)	KSO-9531	20 mg/mL	1.0 µm
50 mg (≈100 samples)	KSO-9532		
500 mg (≈1000 samples)	KSO-9533		



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