

HPLC for Large Molecules

Gel Filtration Chromatography (GFC): *Discovery® BIO GFC Gel Filtration Columns*

Discovery® BIO GFC 2000 HPLC Column

for analyte group >10,000,000 mw

pore size 2000 Å

I.D. (mm)	L (cm)	Cat. No.	Qty
particle size 5 µm			
4.6	5	567319-U	1 ea
4.6	15	567317-U	1 ea
4.6	30	567288-U	1 ea
7.8	5	567318-U	1 ea
7.8	30	567316-U	1 ea

Note: Other BIO GFC column dimensions are available, please inquire. The 5 cm length columns are used as guard columns to protect the analytical column of corresponding particle and I.D.



Related Information

Request free literature by phone, fax, or visit sigma-aldrich.com/literature.

No.	Title
T408076	<i>Discovery® BIO: Solutions for Biotechnology Purification & Separation Challenges</i>

Ion Exchange Chromatography

Ion exchange chromatography (IEX) is based on interaction between the charged biomolecules and oppositely charged functional groups covalently linked to the matrix. Widespread applicability, high resolving power, high capacity, and controllability make ion exchange the technique most frequently used for separating biomolecules.

Ion exchange columns for biomolecule separations offered by Supelco:

- Discovery® BIO PolyMA SCX and WAX
- New! STAT and other ion exchange from Tosoh Bioscience

Discovery® BIO PolyMA Ion Exchange Columns

Discovery® BIO PolyMA polymer-based ion exchange particles have discriminating hydrophilic surface chemistry making them ideally suited for separating proteins, peptides, and other biotechnology-derived products. Differing from reversed-phase separations, ion exchange separates proteins and peptides that may have similar hydrophobic characteristics, but have different degrees of ionization (charge). Two ion exchangers, Discovery® BIO PolyMA-SCX for cation exchange, and Discovery® BIO PolyMA-WAX for anion exchange, complement the Discovery® BIO silica-based materials. The proprietary hydrophilic surface chemistry of Discovery® PolyMA ion exchange particles offers subtle ionic selectivity characteristics that are not available from the typical polystyrene-divinylbenzene (PS-DVB) and standard polymethacrylate based ion exchange resins currently on the market. In contrast to silica-based packings, Discovery® BIO PolyMA is resistant to chemical degradation at acidic and basic pH extremes.

Significant benefits include:

- Excellent separations of protein isoforms
- High resolution at low sample load
- Quantitative recovery – a hydrophilic surface eliminates protein adsorption
- High efficiency
- Wide pH range

Benefits of Polymethacrylic Polymers Over Other HPLC Particles

Competitive Particle	Benefits of Hydrophilic-coated Polymethacrylate (BIO PolyMA)
Polystyrene	BIO PolyMA is less hydrophobic, reducing the amount of secondary, non-specific interactions that can cause low protein recovery
Cross-linked Polysaccharides	BIO PolyMA is more mechanically stable, increasing column lifetime and operating flow rates
Silica	BIO PolyMA is more chemically stable, increasing the range of pH available to alter selectivity, or regenerate with base
Standard Polymethacrylate	BIO PolyMA hydrophilic coating gives better protein recovery

Discovery® BIO PolyMA-WAX Column

For use at pH greater than the protein isoelectric point (pI), usually at pH 7 or higher

mode of use anion-exchange

particle platform polymethacrylate, spherical, monodispersed
 phase DEAE (diethylaminoethyl), Cl⁻ counter ion
 surface coverage 0.3 meq/g
 pore size 1,000 Å
 operating pH range 2 - 11
 temp. range 4-50 °C
 max. pressure 735 psi

I.D. (mm)	L (cm)	Cat. No.	Qty
particle size 5 µm			
4.6	5	59602-U	1 ea

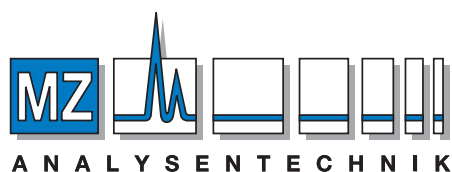
Discovery® BIO PolyMA-SCX Column

For use at pH less than the protein isoelectric point (pI), usually at pH less than 7

mode of use cation-exchange

particle platform polymethacrylate, spherical, monodispersed
 phase sulfopropyl, Na⁺ counter ion
 surface coverage 0.3 meq/g
 pore size 1,000 Å
 operating pH range 1 - 13
 temp. range 4-50 °C
 max. pressure 735 psi

I.D. (mm)	L (cm)	Cat. No.	Qty
particle size 5 µm			
4.6	5	59601-U	1 ea



AUTHORIZED DISTRIBUTOR

MZ-Analysetechnik GmbH, Barcelona-Allee 17 • D-55129 Mainz

Tel +49 6131 880 96-0, Fax +49 6131 880 96-20

e-mail: info@mz-at.de, www.mz-at.de