

Technical Information Technische Information

1.16881 / 1.16887 Fractogel® EMD TMAE (M), (S)

Ion exchange chromatography using strong anion exchangers

Fractogel® EMD ion exchangers are cross-linked polymethacrylate resins with pore sizes of about 800 Å modified according to the tentacle technology. The beads have a high mechanical and chemical stability. Since the functional ion exchanger groups are bonded via linear polymer chains, the ionic groups are very well accessible for proteins.

Fractogel® EMD TMAE is a chromatographic support for the purification of acidic and neutral proteins and peptides, immunoglobulines, and for DNA removal.

Due to the titration behaviour the ion exchange capacity can be used from pH 2 up to pH 12. The separation of proteins is based on reversible electrostatic interactions between the negatively charged regions of the proteins surface and the support. Proteins are retained efficiently on Fractogel® EMD TMAE when the pH of the buffer is about 1 unit above their isoelectric points (pI).

The strength of the binding depends on:

- the buffer system
- pH value of the buffer which determines the surface charge of the protein
- the concentration of the counter ions
- the charge density on the support (protein binding capacity)

Properties of the tentacle ion exchanger

Cat. No.	1.16881 (M-type)	1.16887 (S-type)
Bulk material	100 ml, 500 ml, 5 l	
Particle size	40 – 90 µm (M)	20 - 40 µm (S)
Type of chromatography	strong anion exchange chromatography	
Functional group	trimethylammoniummethyl group (TMAE); "Q-type"	
Protein binding capacity	100 mg BSA/ml of gel	
pK value	> 13	
pH stability range	pH 2 up to pH 12	
Elution conditions	high salt concentrations	
Pressure limit	8 bar	

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Operating temperature	4°C to room temperature
Storage, preservative	20 % ethanol, 150 mmol/l NaCl
Regeneration	1 – 2 M NaCl
Sanitization	0.1 – 0.5 M NaOH, sodium lauroyl sarcosinate
Linear flow rate	up to 240 cm/h in process columns corresponding to approximately 1.5 bar for M-type up to 80 cm/h in process columns corresponding to approximately 1.5 bar for S-type (for 20 cm bed height, 25 % compression, eluents with a viscosity as water)

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