Product information
Produktinformation

1.10338 Fractogel® EMD Chelate (M)

Immobilized metal affinity chromatography (IMAC)

Fractogel® EMD Chelate is a cross-linked polymethacrylate resin for affinity chromatography modified according to the tentacle technology. The Fractogel® beads have a high mechanical and chemical stability. The functional groups are bonded via linear polymer chains.

Immobilized metal affinity chromatography on Fractogel® EMD Chelate has been used for the purification of various proteins, e.g. histidine-tailed recombinant proteins or proteins with exposed histidine residues. The metal ion can coordinate to non-bonding electron pairs of the amino acid side chains.

The method is not limited to the isolation of metalloproteins. Unspecific binding may be avoided by the presence of 0.2 M to 1 M NaCl in the buffers.

Elution can be achieved using an increasing concentration of a competitive substance (i. e. imidazole, histidine, glycine) or by a decreasing pH-gradient or a combination of both methods. The most commonly used metal ions are copper, zinc, nickel and cobalt. However, iron, calcium and other heavy methals and transition elements can also be immobilized.

Properties of the tentacle affinity sorbent

Cat. No.	1.10338
Bulk material	250 ml, 500 ml, 5 l
Particle size	40 – 90 µm
Type of chromatography	Immobilized metal affinity chromatography (IMAC)
Functional group	Iminodiacetic acid
Protein binding capacity	about 60 mg lysozyme/ml of gel
Metal ion binding capacity	about 75 µmol copper/ml of gel
pH stability range	pH 1 up to pH 12
Elution conditions	Increasing concentration of imidazoles or other histidine complexing substances, decreasing pH
Pressure limit	8 bar
Operating temperature	4 °C to room temperature
Storage, preservative	20 % ethanol, 150 mmol/l NaCl
Regeneration	0.1 NaOH, 1 M HCl, 20 % 2-propanol
Sanitization	0.1 – 0.5 M NaOH
Linear flow rate	Up to 400 cm/h