PROSEP®-Thiosorb and PROSEP-Thiosorb M Chromatography Media

For the recovery and purification of immunoglobulins.

Thiophilic affinity chromatography is a valuable technique for the recovery and purification of immunoglobulins for most species.

Description

PROSEP-Thiosorb and PROSEP-Thiosorb M are prepared by the *in situ* synthesis on PROSEP of a thiophilic ligand. The ligand is nonbiological and, therefore, there is no leachable protein, and the matrix can be used in situations where high concentrations of proteases exist.

PROSEP offers significant advantages for process scale use. It consists of glass particles permeated by interconnecting pores of uniform and precisely controlled size. PROSEP is incompressible, extremely durable, and does not shrink or swell in different solutions. The incompressible nature of the matrix and the low back pressures generated allow the matrices to be used at high flow rates.

PROSEP-Thiosorb and PROSEP-Thiosorb M selectively bind protein regions common to all immunoglobulins and can, therefore, be used for the purification of antibodies or antibody fragments. Typical static binding capacities are shown below. Recovery of active antibody is high (>90%) due to the mild binding and elution conditions. This can be advantageous in cases where the antibody molecule is sensitive to low pH conditions.

This matrix will bind antibodies in the presence of high concentrations of lyotropic salts (e.g. ammonium sulphate or potassium sulphate) and release them at low concentrations or in the absence of lyotropic salt.

Binding Capacity for PROSEP-Thiosorb direct from plasma or cell culture supernatants.

ANTIBODY	CAPACITY (mg/ml)	PURITY (%)
Polyclonal Bovine IgG	10	95
Polyclonal Sheep IgG	15	96
Polyclonal Goat IgG	11	97
Polyclonal Rabbit IgG	8	74
Polyclonal Horse IgG	10	89
Polyclonal Human IgG	11	92
Polyclonal Porcine IgG	12	97
Monoclonal Mouse IgG_1	8	98
Monoclonal Humanized IgG_1	18	98
Monoclonal Mouse IgM	2	95

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Dynamic Capacity and product recovery

The optimized pore diameters of PROSEP-Thiosorb, coupled with its narrow pore size distribution, ensures optimal pore diffusion and hence mass transfer. This allows rapid access of antibodies to all of the available binding sites in the particles, resulting in a sharp breakthrough profile, high dynamic capacity and high product recovery. The table here shows the dynamic capacity of PROSEP-Thiosorb for bovine IgG at different flow rates.

Dynamic Capacity for IgG from Bovine Plasma

FLOW RATE (cm/hr)	DYNAMIC CAPACITY (mg/ml)	RECOVERY (%)
60	9.0	>95
150	8.5	>95
300	7.4	>95

PROSEP-Thiosorb was packed into a column (6.6 mm diameter, 60 mm height, 2 ml bed volume). The column was used to purify bovine IgG from plasma at a loading of 10 mg/ml adsorbent (the static binding capacity).

Storage and Handling

PROSEP-Thiosorb and PROSEP Thiosorb M are supplied dry. They should be stored desiccated at room temperature. The products are stable in dried form but can also be stored in bicarbonate buffer pH 8.0, PBS pH 7.4, 70% ethanol and 30% isopropanol.

Manufacturing Standards and Quality Assurance

Millipore recognizes the importance of providing regulatory support and meeting industry quality standards. All PROSEP products are manufactured in laboratories certified to internationally recognized standard, BS EN ISO9001 for the manufacture of chromatography media. The facility is subject to routine independent surveillance audits.

Ordering Information

Quantity	Catalogue Number
PROSEP-Thiosorb	
10 ml	115242424
50 ml	115242426
100 ml	115242427
500 ml	115242429
1 L	115242430
5 L	115242433
10 L	115242435
PROSEP-Thiosorb M	
10 ml	113242424
50 ml	113242426
100 ml	113242427
500 ml	113242429
1 L	113242430
5 L	113242433
10 L	113242435

To Place an Order or Receive Technical Assistance

For additional information call your nearest Millipore office. In the U.S. and Canada, call toll-free 1-800-MILLIPORE (1-800-645-5476). In the U.S., Canada and Puerto Rico, fax orders toll-free 1-800-MILLIFX (1-800-645-5439). On the Internet http://www.millipore.com, E-mail: tech_service@millipore.com

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