



**Ion Exchange Media
For Proteins & mAbs
Capture & Purification**

YMC-BioPro Q75 & S75

**Author: BB
Date: 13.11.2009**

Ion Exchange Resins for Capture & Purification of Biomolecules

YMC-BioPro Q75 and S75 are ion exchange resins designed for the capture and purification of proteins, peptides, antibodies and oligonucleotides in laboratory and industrial scale. They are based on a newly developed hydrophilic polymer matrix with a particle size of 75 μm and a pore size of 100 nm. The materials offer a high dynamic binding capacity, together with low non-specific adsorption and excellent recovery. The narrow particle size distribution and the low operating pressure make them perfect for capture steps at high flow rates.

Features

- Sulfobutyl chemistry for cation exchange (S75)
- Quaternary amino chemistry for anion exchange (Q75)
- Excellent dynamic binding capacity (DBC)
- Low non-specific adsorption and high recovery
- High capacity with low operating pressure even at high flowrates

Specification

	YMC-BioPro Q75	YMC-BioPro S75
Matrix	hydrophilic polymer beads	
Particle Size	75 μm	
Charged Group	$-\text{CH}_2\text{N}^+(\text{CH}_3)_3$	$-(\text{CH}_2)_4\text{SO}_3^-$
pH Range	2.0 - 12.0	

Scale up

YMC-BioPro series includes prepacked columns with 5 μm porous and non-porous resins for fast analysis, and bulk materials of 30 μm and 75 μm porous polymer beads for purification and capture. The 5 μm porous types of BioPro QA and SP have similar retention selectivity to the 30 μm and 75 μm BioPro bulk media and allow for predictable scale-up from laboratory to production scale.

Availability

YMC-BioPro Q75 & S75 are available in bulk quantities from 50 mL to several thousand litres. The material is manufactured in large batches and long term supply is assured to accommodate industrial bioprocessing requirements. To assist process validation, regulatory support files and technical support documentation are available.



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Excellent efficiency with high dynamic binding capacity

BioPro Q75 and S75 give both the high capacity required for capture steps and the high efficiency needed for intermediate purification and thereby increase productivity and reduce costs in bioprocesses.

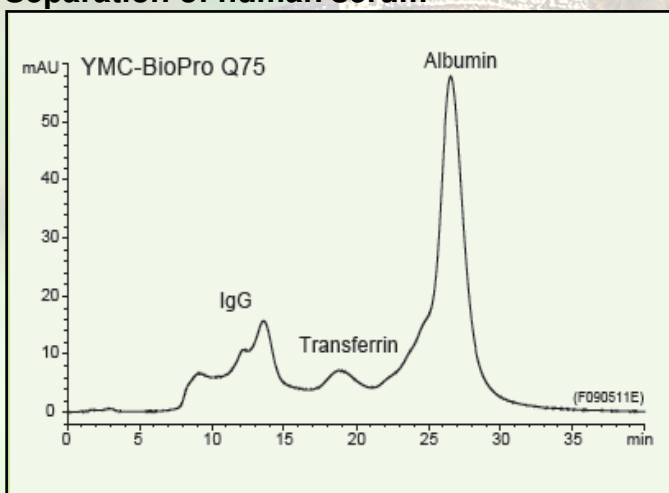
Anion Exchanger	Particle Size (µm)	Ion Exchange Capacity (meq/mL _{resin})	DBC ¹⁾ (mg/mL _{resin})
YMC-BioPro Q75	75	0.13	187

Cation Exchanger	Particle Size (µm)	Ion Exchange Capacity (meq/mL _{resin})	DBC ¹⁾ (mg/mL _{resin})
YMC-BioPro S75	75	0.12	187

¹⁾ Dynamic binding capacities were determined at 10% breakthrough under following conditions:

	For YMC-BioPro Q75	For YMC-BioPro S75
Column:	50 x 4.6 mmID	50 x 4.6 mmID
Linear velocity:	3.0 cm/min (180 cm/h)	3.0 cm/min (180 cm/h)
Detection:	UV at 280 nm	UV at 280 nm
Equilibration buffer	20 mM Tris-HCl (pH 8.6)	20 mM Glycine-NaOH (pH 9.0)
Elution buffer:	0.5 M NaCl in equilibration buffer	0.5 M NaCl in equilibration buffer
Sample:	1.5 mg/ml BSA in equilibration buffer	1.0 mg/ml Lysozyme in equilibration buffer

Separation of human serum



Column	YMC-BioPro Q75, 50 x 4.6 mm I.D.
Eluent	A) 20 mM Tris-HCl (pH 8.6) B) 1.0 M NaCl in 20 mM Tris-HCl (pH 8.6)
Gradient	0% B (0-3 min), 0-15% B (3-18 min), 15-50% B (18-33 min), 50% B (33-40 min)
Flow rate	0.5 mL/min (180 cm/hr)
Temperature	25°C
Detection	UV at 280 nm
Injection	20 mL (100 µL/mL)



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Ordering Information

Product	Particle Size	Code	Packing Sizes				
			50 mL	250 mL	1 L	5 L	25 L*
YMC-BioPro Q75	75 µm	QAA0S75	*	*	*	*	*
YMC-BioPro S75	75 µm	SPA0S75	*	*	*	*	*

* Larger or customized packing sizes are available on request.

