

Biomolecules

YMC-BioPro IEX Columns

 **ORDER NOW**

Features:

- QA and SP chemistry
- Hydrophilic polymer bead
- Porous and Non-porous types
- Low operating pressure



Benefits:

- Excellent resolution
- High recovery of biomolecules
- Ultra-fast analysis on non-porous type

YMC-BioPro IEX Columns are for proteins and peptides, based on a newly developed hydrophilic polymer with low nonspecific absorption.

YMC-BioPro IEX Columns are available in QA and SP chemistries on 5 μm porous (QA and SP columns) and non-porous (QA-F and SP-F columns) hydrophilic polymer beads packed in biocompatible PEEK column housings in a variety of dimensions (inquire for details).

[Click Here to Download BioPro Poster \(PDF\)](#)

Please note that the same QA and SP chemistries are also available on 75 μm porous polymer beads supplied in bulk - [See separate datasheet](#).

[Get BioPro Updates](#)

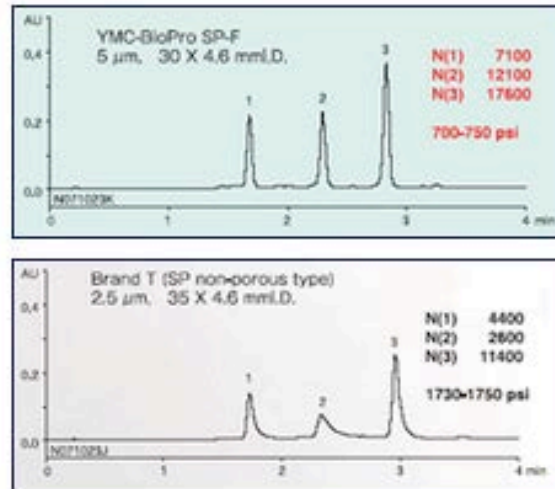
Receive **BioPro** application and product updates as they become available.

Specifications, 5 μm analytical particles

	YMC-BioPro QA	YMC-BioPro QA-F	YMC-BioPro SP	YMC-BioPro SP-F
Matrix	Hydrophilic Polymer Bead			
Particle size	5 μm			
Pore size	1000 Å	Non-porous	1000 Å	Non-porous
Charged group	-CH ₂ N ⁺ (CH ₃) ₃		-CH ₂ CH ₂ CH ₂ SO ₃ ⁻	
Counter ion	Cl ⁻		Na ⁺	
Ion-exchange capacity	0.075 - 0.100 meq/mL resin	0.075 - 0.110 meq/mL resin	0.070 - 0.095 meq/mL resin	0.230 - 0.290 meq/mL resin
Dynamic binding capacity	> 110 mg BSA/mL resin	> 12 mg BSA/mL resin	> 70 mg human IgG/mL resin	> 10 mg human IgG/mL resin
pH Range	2.0 - 12.0			
Column Housing Material	PEEK			

For information and specifications covering **BioPro** 75 μm materials, [see separate datasheet](#).

Resolution: comparison of theoretical plate number



1. Ribonuclease A (0.1 mg/mL)
2. Cytochrome c (0.1 mg/mL)
3. Lysozyme (0.1 mg/mL)

Eluent: A) 20mM KH₂PO₄/K₂HPO₄ (pH 6.8)
B) 20mM KH₂PO₄/K₂HPO₄ (pH 6.8) containing 0.5M NaCl

Gradient: YMC-BioPro SP-F: 0-100 %B (0-4 min)
Brand T: 0-100 %B (0-4.67 min)

Flow rate: 1.5 mL/min

Temperature: 25 °C

Detection: UV at 220 nm

Injection: 20 µL

YMC-BioPro SP-F can separate the proteins sharply without peak-tailing observed on Brand T. Furthermore, despite larger particle size, the theoretical plate number of YMC-BioPro is higher than that of Brand T.

Binding capacity and Recovery

Comparison of dynamic binding capacity (DBC) and recovery

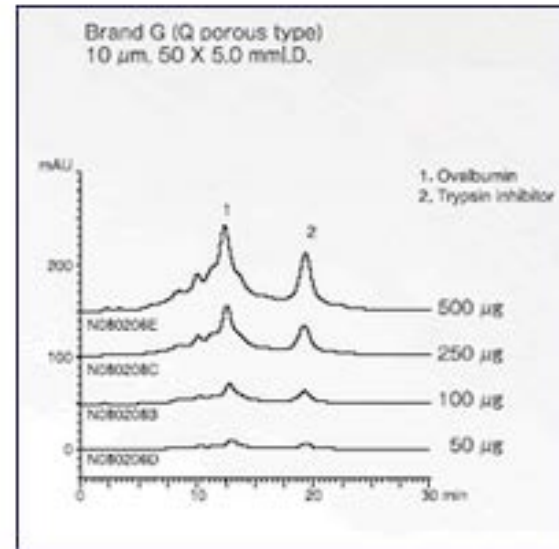
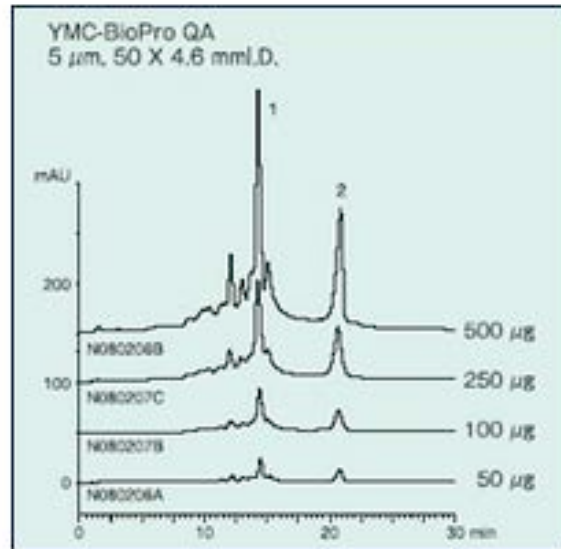
	Dynamic binding capacity (mg/mL-gel, 10% breakthrough)	Eluted amount (mg/mL-gel)	Recovery* (%)
YMC-BioPro QA (5 µm, 50 x 4.6 mmI.D.)	125	120	95
Brand G (10 µm, 50 x 5.0 mmI.D.)	100	35	35
Brand T (10 µm, 50 x 4.6 mmI.D.)	73	58	79

* Recovery: (Eluted amount / Dynamic binding capacity) x 100

Compared with conventional porous-polymer anion-exchange column, YMC-BioPro QA scores the superior DBC and recovery rate. Thus YMC-BioPro shows the least nonspecific absorption in conventional columns.

Loadability

Comparison of the effect of sample load on YMC-BioPro QA and commercial Q type product



Eluent: A) 20mM Tris-HCl (pH 8.1)
B) 20mM Tris-HCl (pH 8.1) containing 0.5M NaCl 10-90%B (0-30 min)

Flow rate : 0.5 mL/min

Temperature: 25 °C

Detection: UV at 280 nm

Injection: 100 μL

YMC-BioPro QA shows the excellent peak shapes even when the loading amount increases. By contrast, the column of Brand G cannot separate well even in small amounts of injection.