

Ion Exchange Chromatography for Proteins and Peptides

YMC-BioPro series

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

Features

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

Benefits

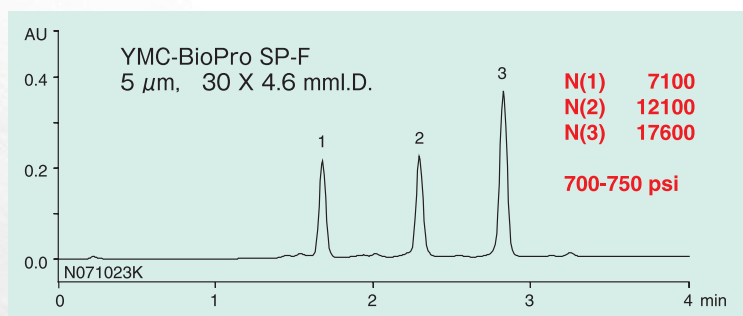
- Excellent resolution
- High recovery of biomolecules
- Ultra-fast analysis on non-porous type



Specification

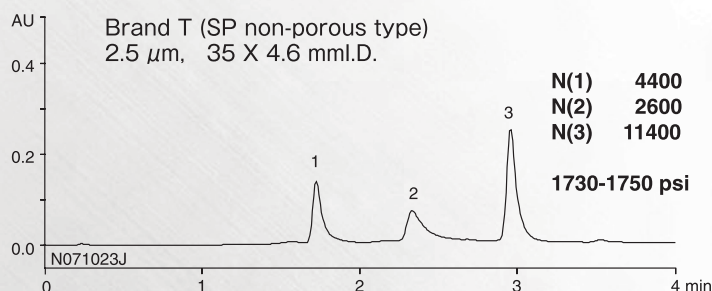
	YMC-BioPro QA	YMC-BioPro QA-F	YMC-BioPro SP	YMC-BioPro SP-F
Matrix	Hydrophilic polymer bead			
Particle size	5 μm			
Pore size	1000 $\text{\AA}$	Non-porous	1000 $\text{\AA}$	Non-porous
Charged group	$-\text{CH}_2\text{N}^+(\text{CH}_3)_3$		$-\text{CH}_2\text{CH}_2\text{CH}_2\text{SO}_3^-$	
Counter ion	Cl^-		Na^+	

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 KH_2PO_4 - K_2HPO_4 (pH 6.8)
B) 20mM KH_2PO_4 - K_2HPO_4 (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 $^\circ\text{C}$
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.

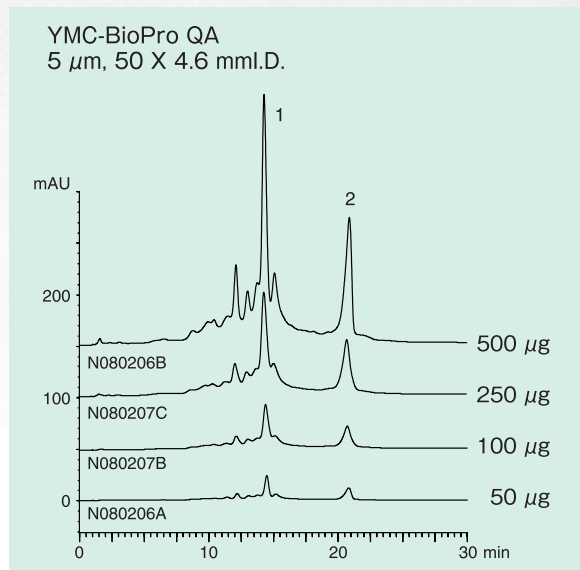
Binding capacity and Recovery : comparison of dynamic binding capacity (DBC) and recovery

	Dynamic binding capacity (mg/mL-gel, 10% breakthrough)	Eluted amount (mg/mL-gel)	Recovery* (%)
YMC-BioPro QA (5 μ m, 50 X 4.6 mml.D.)	126	120	95
Brand G (10 μ m, 50 X 5.0 mml.D.)	100	35	35
Brand T (10 μ m, 50 X 4.6 mml.D.)	73	58	79

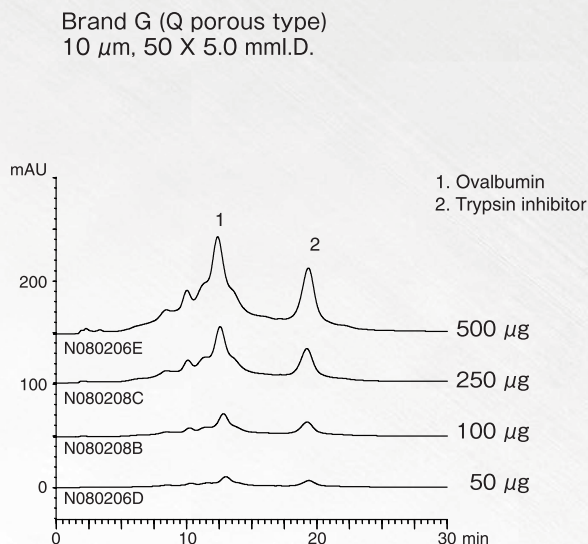
* Recovery : (Eluted amount / Dynamic binding capacity) X 100

Compared with conventional porous-polymer anion-exchange columns, YMC-BioPro QA scores the superior DBC and recovery rate. Thus YMC-BioPro shows the least nonspecific adsorption 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
10-80%B (0-30 min)
Flow rate : 0.5 mL/min
Temperature : 25°C
Detection : UV at 280 nm
Injection : 100 μ L



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 amount of injection.

Ordering Information

Product	Particle size (μ m)	Pore size (Å)	Column size I.D. X length(mm)	Product number
YMC-BioPro QA	5	1000	4.6 X 50	QAA0S05-0546WP
YMC-BioPro SP	5	1000	4.6 X 50	SPA0S05-0546WP
YMC-BioPro QA-F	5	Non-porous	4.6 X 30 4.6 X 100	QF00S05-0346WP QF00S05-1046WP
YMC-BioPro SP-F	5	Non-porous	4.6 X 30 4.6 X 100	SF00S05-0346WP SF00S05-1046WP



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