

Test Data

SP SepFast Large Beads SP SepFast Large Beads Plus

The above media is a group of bioprocessing media for high flow through applications. They have good binding capacity and excellent flow property for various feedstocks. They are good alternatives to Sepharose Big Beads (from GE). They are particularly suitable for large-scale purification of biological molecules from viscous and/or crude culture brothes or for high speed flow-through polishing applications in which impurities are chromatographically adsorbed from the main product stream.

Characteristics of SP SepFast Large Beads and SP SepFast Large Beads Plus:

	SP SepFast Large Beads	SP SepFast Large Beads Plus
Matrix	Highly cross-linked 6% agarose	Highly cross-linked 6% agarose and dextran
Functional group	Sulfopropyl strong cation	
Total ionic capacity	0.09-0.15 mmol/ml	
Particle size	100 - 350 μ m	
Operational flow velocity*	>2000 cm/hr	
pH stability	2-14 (short term) and 4-12 (long term)	
Working temperature	+4 ^o C to +30 ^o C	
Chemical stability	All commonly used buffers; 1 M acetic acid, 1 M NaOH, 6M guanidine hydrochloride, 8 M urea, 30% isopropanol, 70% ethanol	
Avoid	Oxidizing agents, cationic detergents	
Storage	20% ethanol + 0.2 M sodium acetate	

**Measured in a 32 mm ID column at a bed height of 15 cm using water at room temperature.*

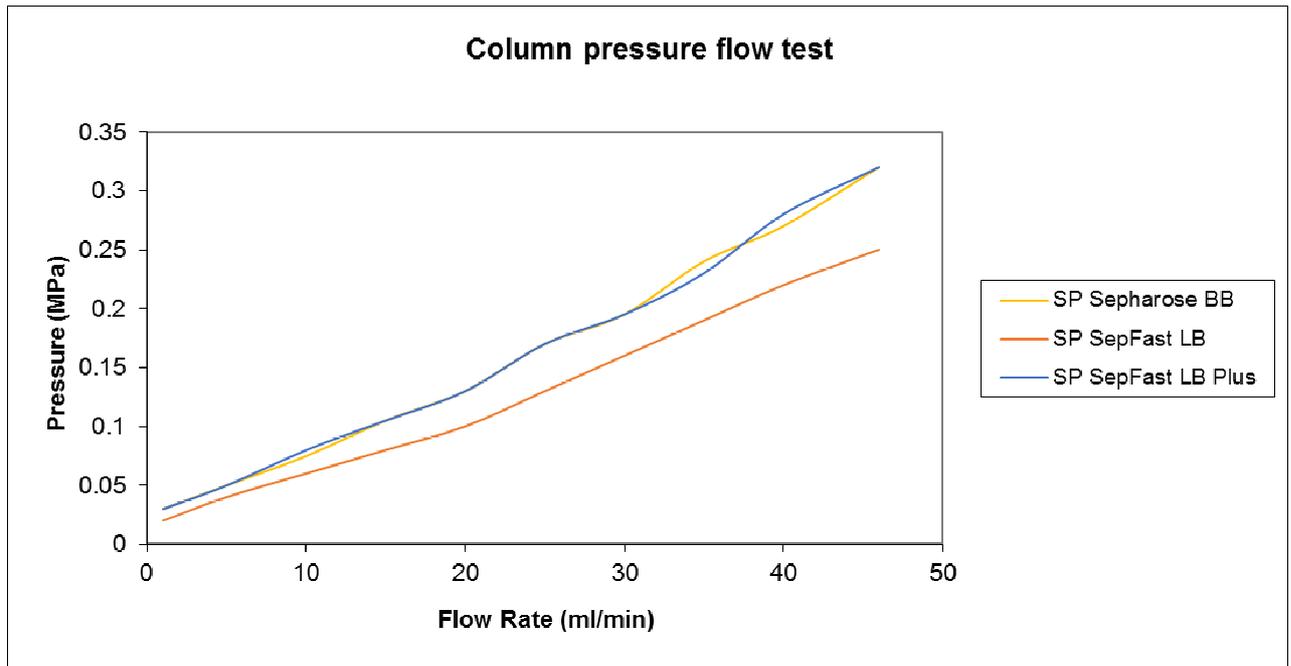


Figure 1: The pressure flow property was tested by packing each resin to a 11mm i.d. column to final 2 ml bed. The liquid phase is deionised water and the test was done at room temperature.

Clearly, our large beads show similar or better flow property than SP Sepharose Big Beads of GE Healthcare.

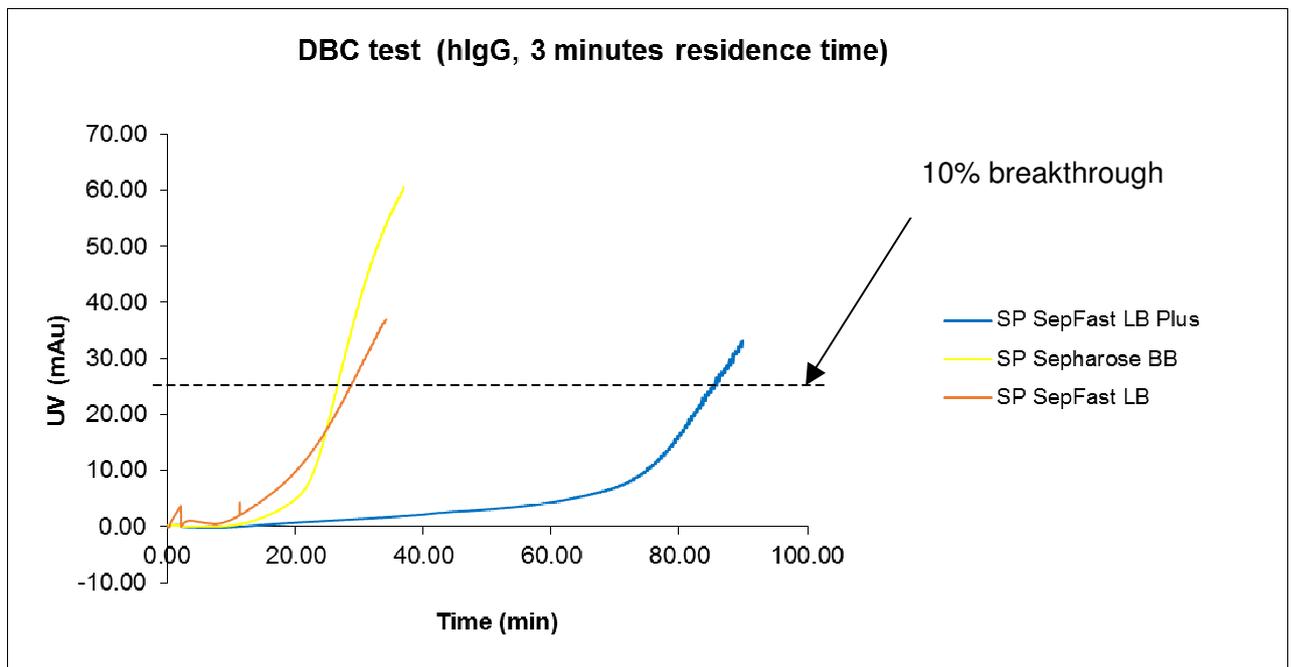


Figure 2: Dynamic binding capacity (DBC) test was conducted by loading human polyclonal immunoglobulin (i.e. hlgG, molecular weight ca 150,000 dalton) until it reached over 10% breakthrough. Each resin was packed to a 11mm i.d. column to final bed volume of 2 ml. The running flowrate was controlled to give a residence time of 3 minutes. Buffer: 50 mM sodium acetate, pH 4.7. Protein solution: 1 mg/ml

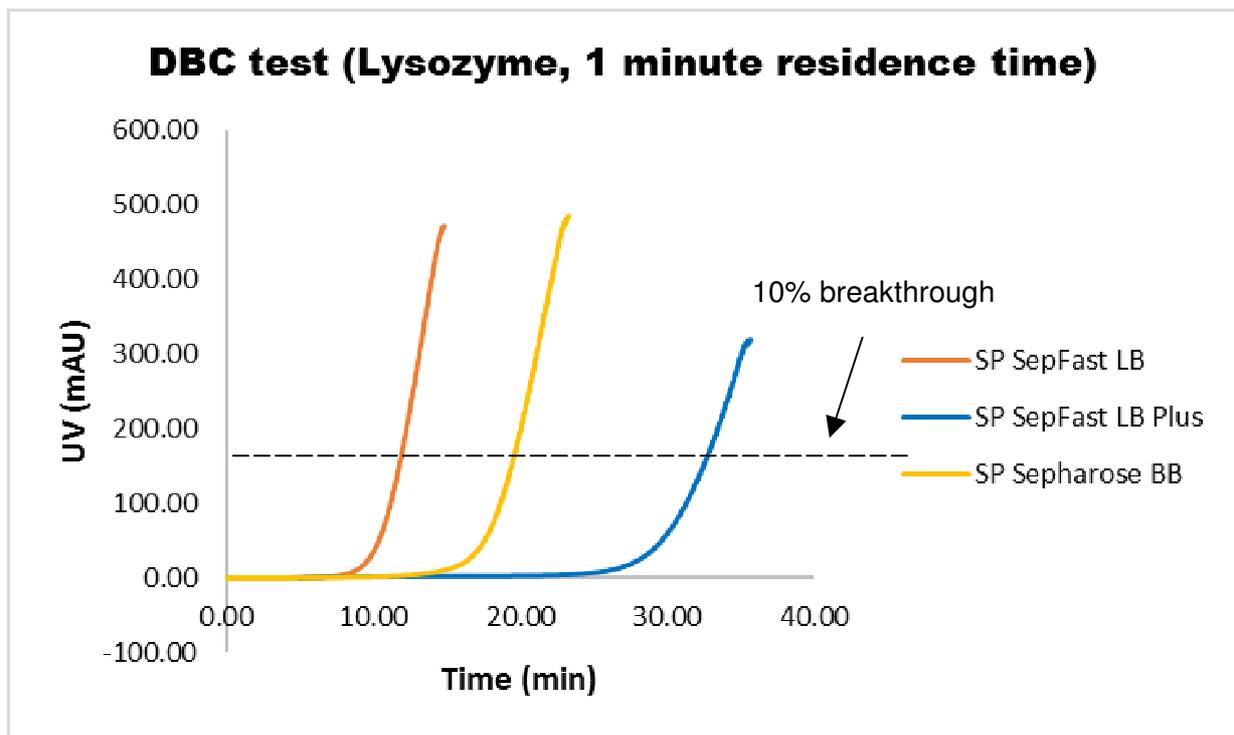
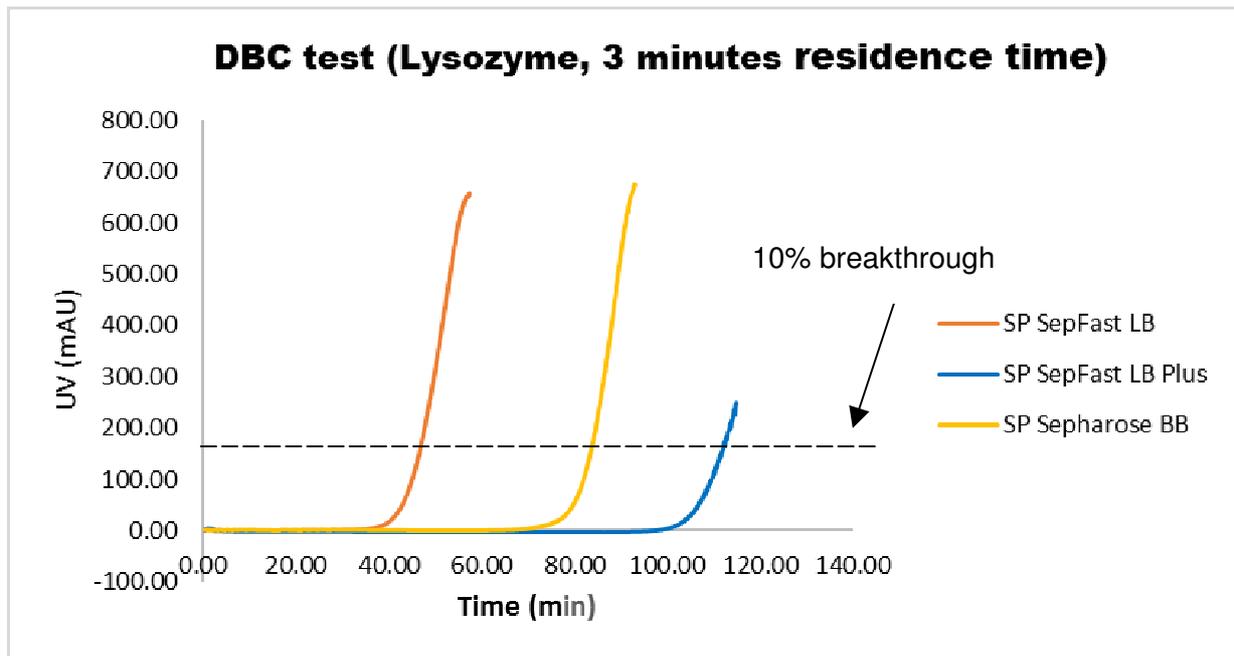


Figure 3: Dynamic binding capacity (DBC) test was conducted by loading lysozyme (molecular weight ca 14,000 dalton) until it reached over 10% breakthrough. Each resin was packed to a 11mm i.d. column to final bed volume of 2 ml. The running flowrate was controlled to give a residence time of 3 minutes (0.7 ml/min) or 1 minute (2 ml/min). Buffer: 50 mM sodium phosphate, pH 7.2. Protein solution: 5 mg/ml.

Discussion and Summary: Our SP SepFast Large Beads Plus shows much higher dynamic binding capacity than SP Sepharose Big Beads no matter for large or small proteins. Our SP SepFast Large Beads shows slightly better capacity than SP Sepharose Big Beads if a large protein is loaded, but less capacity if a small protein is loaded.

Please contact us (info@biotoolomics.com), visit our website (www.biotoolomics.com) or contact our worldwide representatives for further information.