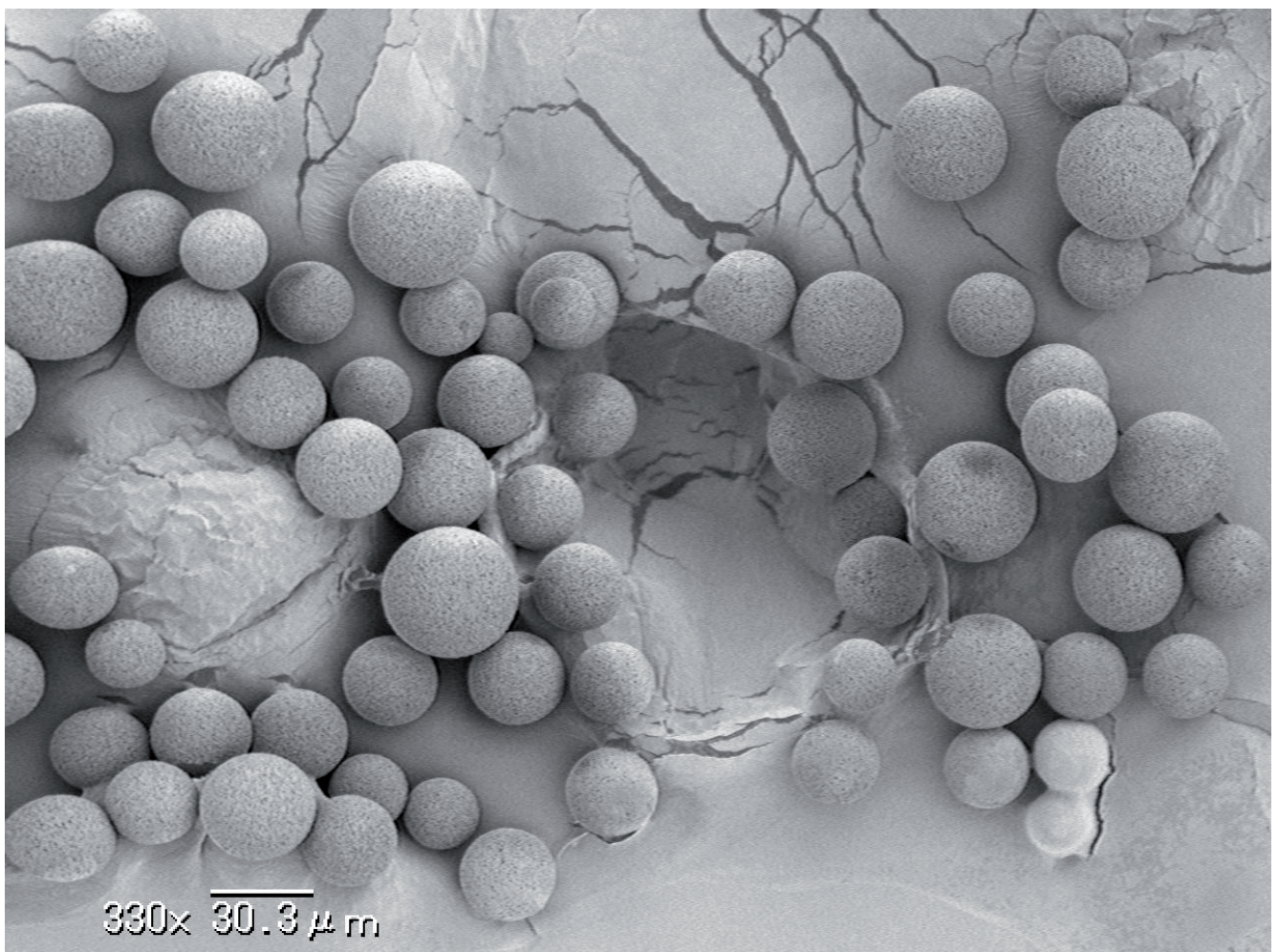


Purification of Insulin and Lysozyme with BioPro IEX SmartSep

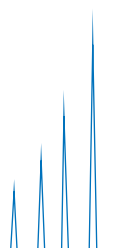
Are you looking for an efficient media for your purification of insulin and lysozyme? YMC provides solutions to increase your purification productivity and cost-efficiency.

The YMC IEX gel are used for the Down-Stream-Processing (DSP) step in the industrial production of hu-

man insulin and lysozyme. It shows superior dynamic binding capacity (DBC) as well as low backpressure at high flow rates. The processing time is therefore reduced while the sample throughput is increased at the same time. The evenly distributed particle size and pore size lead to constant high performances and an efficient column packing procedure.



BioPro IEX SmartSep S30 particles



APPLICATION NOTE

Comparison of the Performance of BioPro IEX SmartSep and Competitors' Products in the Purification of Lysozyme and Insulin

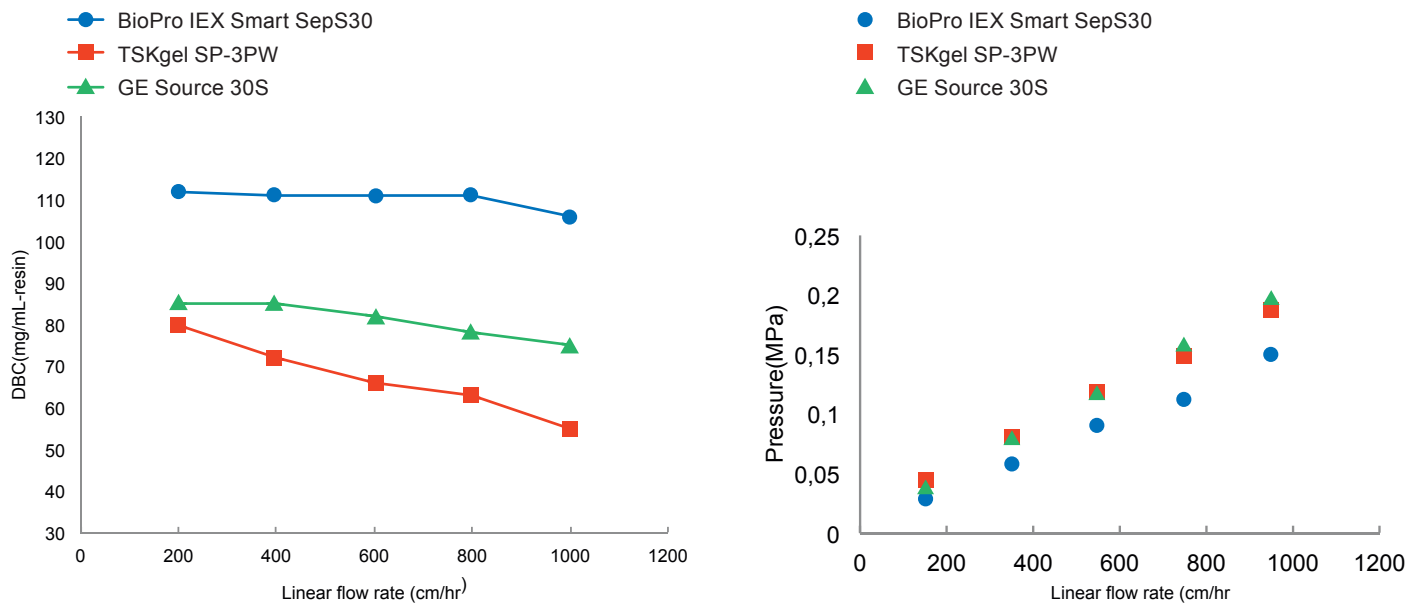


Figure 1. Comparison of DBC for lysozyme (left) and column pressure at different flow rate. The test conditions: column ID 50 x 5mm ID; equilibration buffer: 20 mM glycine-NaOH (pH 9.0); linear velocity is 200-1000 cm/hr (0.66 mL/min-3.27 mL/min).

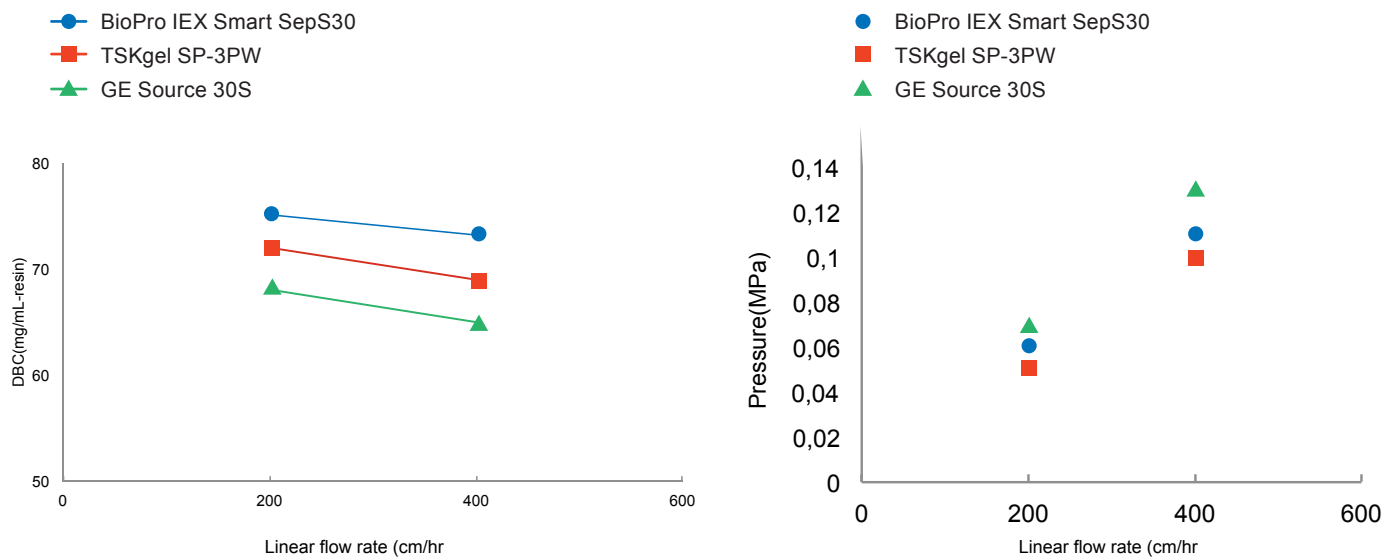


Figure 2. Comparison of BioPro IEX SmartSep S30 and competitor's DBC (left) of insulin and column pressure (right) at different flow rate. The test conditions: column ID 50 x 5 mm ID; equilibration buffer: 20 mM citric acid-NaOH (pH 4.0)/ethanol=8/2 (v/v); linear velocity is 200-400 cm/hr (0.66 mL/min-3.27 mL/min).

BioPro IEX SmartSep S30 shows considerably higher DBC across a wide linear velocity range. A high DBC at flow rate of up to 1,000 cm/hr can reduce process time and increase productivity.

APPLICATION NOTE

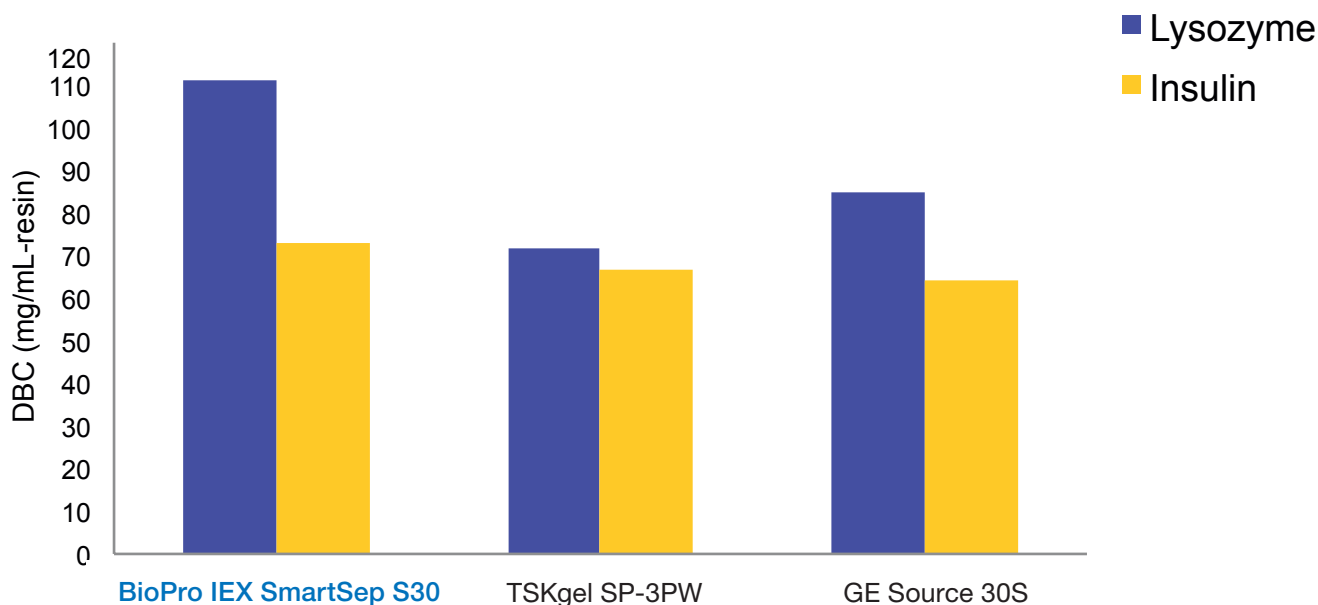


Figure 3. Comparison of BioPro IEX SmartSep S30 and competitor's DBC of both lysozyme and insulin.

Conditions Lysozyme

Column: 50 x 5.0 mm ID
 Equilibration buffer: 20 mM Glycine-NaOH (pH 9.0)
 Elution buffer: 20 mM Glycine-NaOH (pH 9.0) cont. 0.5M NaOH
 Linear velocity: 400 cm/hr (1.32 mL/min)
 Sample: Lysozyme

Conditions Insulin

Column: 50 x 5.0 mm ID
 Equilibration buffer: 20 mM Citric acid-Tri sodium citrate (pH 3.5) / 20 % IPA
 Elution buffer: 20 mM Citric acid-Tri sodium citrate (pH 3.5) / 20 % IPA cont. 0.3 M Sodium sulphate
 Linear velocity: 400 cm/hr (1.32 mL/min)
 Sample: Insulin

Conclusions

The YMC-BioPro IEX SmartSep S30 shows higher DBC for both peptide (insulin) and protein (lysozyme). High binding capacity is achieved regardless of flow rates. This allows purification processes to be carried out more efficiently.

Your Benefit with BioPro IEX SmartSep

- High dynamic binding capacity and recovery
- Easy elution of target compounds
- Low backpressure
- Short delivery time also for industrial-scale quantities
- Full regulatory support