Poster presentation:

Antibody purification: Development of two new highly efficient purification resins

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Biography: Aaron McBride received his MS in cell and molecular biology from Michigan State University. He has played an instrumental role in the development, commercialization and support of multiple chromatography resins and recombinant proteins introduced over the past seven years at Thermo Fisher Scientific. His development work also includes products for protein purification, molecular biology and in vitro translation.

Abstract:
Academic, biotech, and pharmaceutical scientists all have different requirements for their purified antibodies based on their final application. While these requirements will ultimately be satisfied by additional purification steps, the capture step is relatively the same. Most antibodies will be captured by one of four different affinity ligands, Protein A, G, A/G or L, with Protein A being the most utilized. The decision of which ligand to use is typically based on antibody species, binding affinity for the ligand, relative stability of the antibody that is being purified, and chemical stability. The ligand is only one half of the equation of which resin to choose. The other half is the chromatography support on which the ligand is immobilized. The chromatography support can influence final purity, maximum flow rates, elution volume, and binding capacity at different flow rates, all of which impact the total efficiency of the purified protein recovery. In this poster we describe the development of Protein G and Protein A/G on Applied Biosystems POROS perfusion chromatography media. Both resins provide up to four fold higher binding capacity at higher flow rates when compared to similar agarose-based resins. Another unique advantage of POROS perfusion media is that it provides better mass transfer which results in smaller elution volume. In addition, both resins have low leaching and similar chemical compatibility to other Protein G and A/G agarose resins.