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Performance of the AbSolute® High Cap resin in the Nimotuzumab capture step

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Protein A is the affinity chromatography ligand of choice for first-step capture in the purification of mAbs as its high selectivity gives excellent purity plus high yields and also functions as the key volume reduction step in the process since Protein A concentrates the product stream. The relatively high cost of these resins leads to consider different operational strategy as evaluate protein A matrixes with better performance in dynamic binding capacity at high flow rates. Recently a new Protein A ligand, AbSolute® High Cap (AbSolute HC), was introduced by Novasep Company that is modified with respect to high binding capacity at higher velocities. This study investigated the performance of AbSolute HC resin during Nimotuzumab capture by measuring its DBC at different flow rates and feed concentrations at lab scale. AbSolute HC data were also compared with Mab Select SuRe, current affinity gel used in the purification process. The process conditions were adjusted including the maximum speed for all steps with an assessment of impact on Nimotuzumab purity using AbSolute HC. In addition the impact of loading amount on aggregates formation with this media and the resin lifetime were evaluated. The results showed better DBC at 10% on AbSolute HC than Mab Select Sure, with a higher DBC at 10% on Absolute HC with IgG concentration at 2 g/L than 0.13 g/L. No significant loss of purity or yield for speeds until 1000 cm/h for all steps was obtained using AbSolute HC resin. The lifetime of the media was tested up to 200 cycles with suitably results using NaOH and PAB solution.

Biography

Rosario R Martinez Garcia is a Chemical Engineer graduated in 1993 at High Polytechnic Institute Jose A. Echeverría (ISPJAE). Cuba. He has obtained his Master of Science degree in Biotechnology Process (1999). Since 1993, he has been working in the Biotechnology field from 1997 at Center of Molecular Immunology (CIM). He has participated in many postgraduate courses and training related with different themes of biotechnology and its application for the industry. Presently, he is the Chief of Department of Plant Vaccines at CIM.

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