Case study

Protein A resin screening for Mouse IgG

INTRODUCTION

A leading medical technology company, a pioneer in diagnostics, was looking for a process optimization to improve recovery and purification solution.

CHALLENGE

The customer's purification process operated at reduced binding capacity to enable the purification of mouse IgG. To improve process efficiency, however, they hoped to identify a solution that would enable them to obtain equivalent purity with a higher dynamic binding capacity.

PROchievA

AVANTOR SOLUTION

An Avantor team executed a study based on protocol developed collaboratively with the customer and using customer-provided resins, IgG and conditions. The study demonstrated the performance of PROchievA™ resin compared to that of other resins used for the purification of mouse IgG.

RESULT – VALUE TO CUSTOMER

The results of the study indicated a significant increase in efficiency with the use of PROchievA™, with time saved in screening and development.

CUSTOMER BENEFIT

Based on these results, the customer implemented a new process with PROchievA™ resin and achieved improved recovery and purity in their manufacturing process.

DETERMINE PROCHIEVA SEPARATION CAPABILITIES AND BENEFITS

Protein A resin screening for Mouse IgG

Protein A resin	Residence time (min)	Mouse IgG1 DBC (mg/mL)
PROchievA™	8	31.6
	6	30.3
	4	28.3
	2	20.3
Competitor resin 1	2	7.5
Competitor resin 2	2	3.7

PROchievA™ ligand leaching data

The experiment was performed with a 1 ml column at 2 minute residence time using a pH 2.9 elution buffer, Leached protein A in eluate sample was quantified by ELISA.

Sample	Protein A concentration
Elution from 2 min residence time	1.21 ppm

Outcome

Overall, PROchievA™ showed better performance, with higher purity and dynamic binding capacity.

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