

Toyopearl® Butyl-600M

for Hydrophobic Interaction Chromatography of monoclonal antibodies and hydrophilic proteins

TOYOPEARL
PRODUCT OVERVIEW

Introduction

Three different Toyopearl pore sizes are now available with the butyl ligand.

Toyopearl Butyl-600 is a unique hydrophobic interaction resin offered by Tosoh Bioscience. It is based on the same hydroxylated methacrylic polymer chemistry as the traditional Toyopearl resins, but with a pore size optimized for monoclonal antibody binding. The smaller the pore size, the larger the surface area for binding. If the larger surface area is fully accessible by the target molecule, a higher DBC will be achieved.

Table 1 shows Toyopearl Butyl-600 with the highest IgG DBC of the Toyopearl Butyl products. For smaller molecules such as lysozyme, Toyopearl SuperButyl-550C, currently the smallest pore butyl functionalized material made by Tosoh, exhibits the highest DBC. Where feedstocks contain bigger proteins than IgG and a larger pore size is needed for maximum protein accessibility, Toyopearl Butyl-650 is the best choice.

Product Highlights

- resin pore size (750Å) is optimized for the purification of monoclonal antibodies (mAb)
- typical dynamic binding capacities (DBC) of 40-60mg IgG/mL gel
- good mass recovery
- complementary pore size to Toyopearl Butyl-650 (1,000Å) and SuperButyl-550 (500Å)

Five different Toyopearl pore size and ligand combinations are now offered for mAb purification.

The addition of Butyl-600M to the Toyopearl line adds a fifth resin to the Toyopearl HIC line for doing mAb purification.

In order of increasing hydrophobicity:

Ether-650 < PPG-600 < Phenyl-650 < **Butyl-600** and Butyl-650

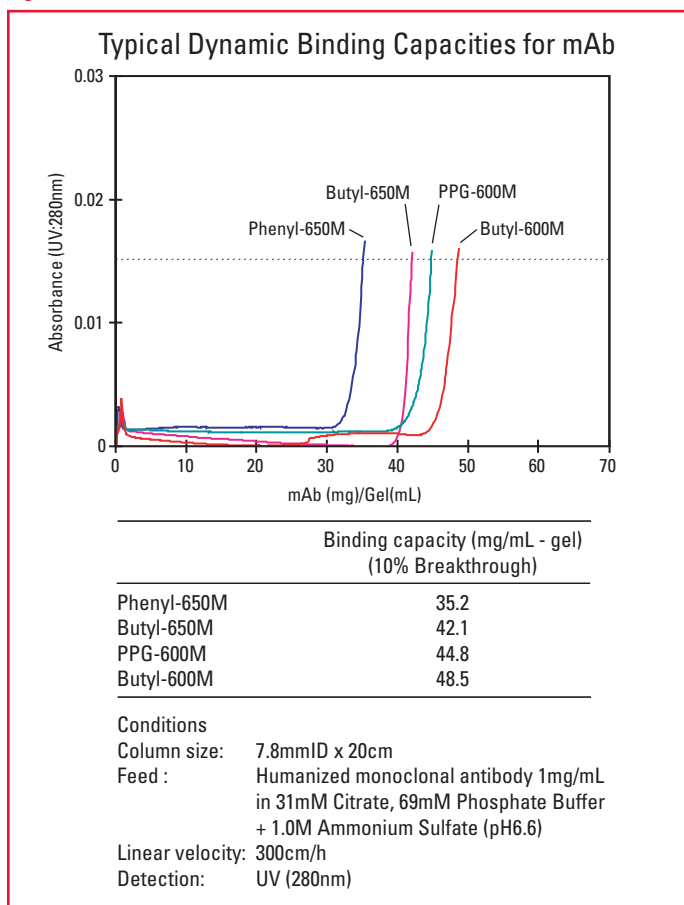
In order of increasing DBC (see Figure 1):

Ether-650 < Phenyl-650 < Butyl-650 < PPG-600 < **Butyl-600**
(not shown)

Table 1

Toyopearl	Pore Size (Å)	Separation	Typical DBC mg/mL gel	
			(IgG)	(lysozyme)
Butyl-650	1,000	proteins, isoforms, and aggregate removal	42	32
Butyl-600	750	monoclonal antibodies	50	
SuperButyl-550	500	smaller proteins and hydrophilic peptides		54

Figure 1



Toyopearl is a registered trademark of the Tosoh Corporation.

Specifications

Particle Size Distribution	minimum 50% (40 - 90 μm)
Pressure Drop	max. 40 kPa (at 4.0mL/min.)
Protein Adsorption Capacity	40 - 60g/L (γ -globulin)

Ordering Information

Part #	Description	Resin Vol.
21448	Toyopearl Butyl-600M	25 mL
21449	Toyopearl Butyl-600M	100 mL
21450	Toyopearl Butyl-600M	1L
21451	Toyopearl Butyl-600M	5L
21452	Toyopearl Butyl-600M	50L



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