

Toyopearl GigaCap® S-650M

for high capacity cation exchange chromatography of IgG

TOYOPEARL
PRODUCT OVERVIEW

Introduction

Toyopearl GigaCap S-650M is the first in a family of ion exchange resins* optimized for high throughput chromatography of IgG. Its base bead is Toyopearl HW-65C which has a particle size range of 50-100 µm. This particle size range has outstanding pressure flow characteristics for high throughput IgG purification.

The high capacity for lysozyme shows that Toyopearl GigaCap S-650M will be an excellent resin for smaller proteins as well.

Product Highlights

- **High Dynamic Binding Capacity** (Table 1 & Figure 1)
 - Typical dynamic capacities of 140+ mg IgG/mL resin (at 212 cm/hr) with high 98-99% recoveries
 - Typical dynamic binding capacities of 160+ mg lysozyme/mL resin
- **Excellent Pressure Flow Characteristics**
 - Maximum back pressure tolerance rating of 3 bar
 - Can be used at high linear velocities
- **Excellent chemical stability when exposed to 1.0mol/L NaOH**
 - Minimal loss of IgG capacity with high recovery after 5 weeks of storage (Figure 2)
 - Minimal loss of capacity after 50 CIPs (1 hour dwell time) (Table 2)
- **Optimized particle size for improved fluid dynamics over agarose materials**
 - Narrow particle size range of 50-100 µm
 - Benefits:
 - Higher elution concentrations
 - Enhanced resolution for improved purities

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*Specifically designed for packed bed use.

Table 1. Typical Properties of Toyopearl GigaCap S-650M

	Toyopearl SP-650M	Toyopearl SP-550C	Toyopearl GigaCap S-650M
Particle size (µm)	40 - 90	50 - 150	50 - 100
Ion exchange capacity (meq/mL resin)	0.13 - 0.17	0.14 - 0.18	0.1 - 0.2
Binding capacity (mg/mL -gel)			
lysozyme @ 212cm/hr	48	81	167 (280cm/hr)
IgG @ 212cm/hr	43	14	145

Figure 1. IgG Breakthrough Curves at Various Flow Rates

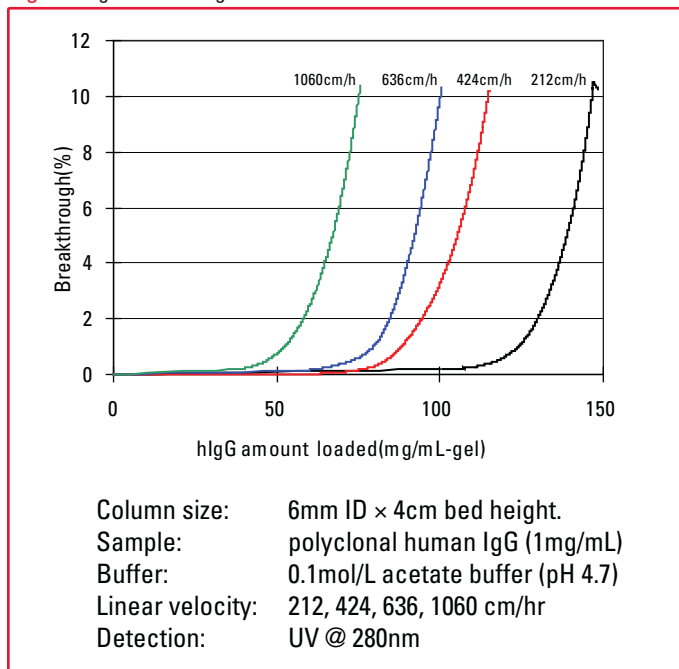


Figure 2. Toyopearl GigaCap S-650M Alkaline Stability

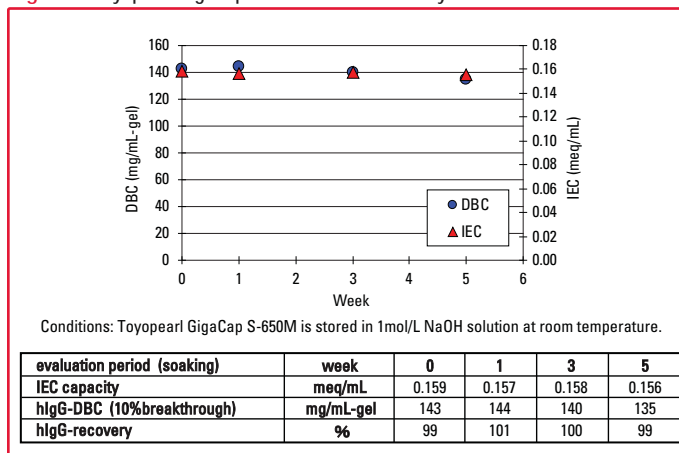


Table 2. Toyopearl GigaCap S-650M CIP-Alkaline Stability

	Prior to NaOH	After 50 Cycles
Toyopearl GigaCap S-650M	167mg/mL-resin	163mg/mL-resin

Ordering Information

Part #	Description	Resin Vol.
21833	Toyoparl GigaCap S-650M	100mL
21834	Toyoparl GigaCap S-650M	250mL
21835	Toyoparl GigaCap S-650M	1L
21836	Toyoparl GigaCap S-650M	5L
21837	Toyoparl GigaCap S-650M	50L
21868	ToyoScreen GigaCap S-650M	1mL X 6 ea.
21869	ToyoScreen GigaCap S-650M	5mL X 6 ea.



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