Purilogics™
By Donaldson

Purexa™ PrA

Membrane Chromatography Products

for Antibody Purification

Purexa PrA affinity membranes utilize a convection-based mechanism to improve efficiency, purity and yield. Our membranes avoid pore diffusion complications while shortening processing times.

How Purexa PrA Works

Purexa PrA is our solution for Protein A antibody purification. Successfully separate target antibodies from the residual DNA and host cell proteins. Utilizing affinity-based chromatography, our porous membranes are functionalized for better purification.

Convection-based mechanism
H_2O + Sugar + Stir

Diffusion-based mechanism
H_2O + Sugar + Hours of Time

This simple but effective example demonstrates how a convection-based process is much faster than that of diffusion.

Superior productivity: up to 10x with Purexa PrA

+ Higher dynamic binding capacity at shorter residence times
+ High antibody recovery with low residual DNA and host cell proteins
+ Consistent performance over multiple bind and elute cycles
+ Easier setup and breakdown

HPLC Purity Analysis

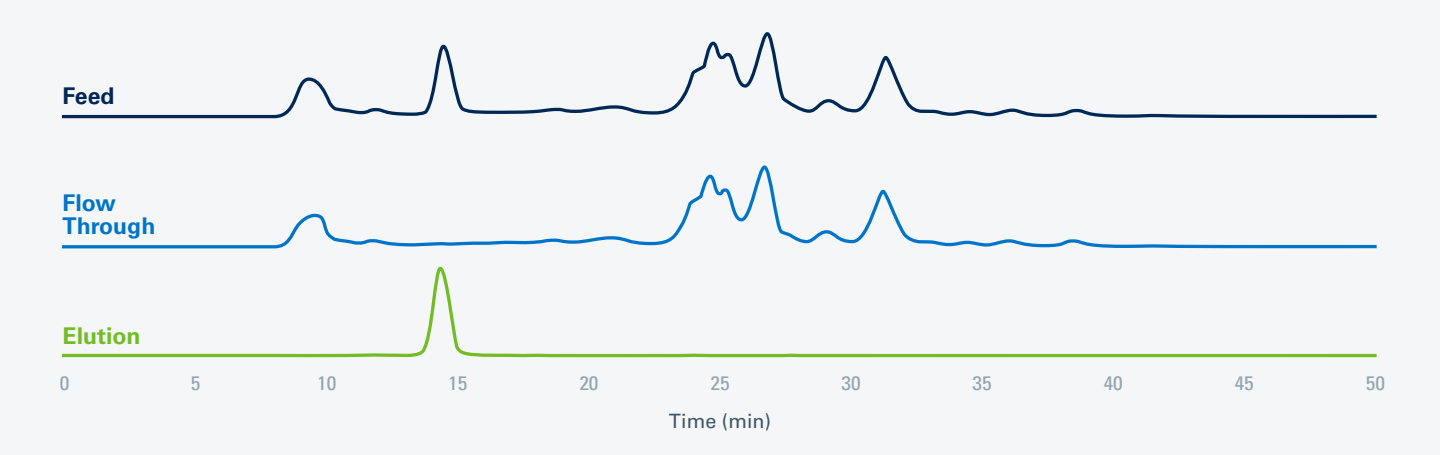

Figure 1. HPLC visualization of selective isolation of antibody from supernatant feed.

Increase Productivity with Purexa PrA

Compared to magnetic and resin beads, Purexa PrA affinity membrane chromatography is unaffected by pore diffusion and has no incubation time with overall shorter processing times. Purexa PrA can operate at rapid flow rates to enhance productivity while maintaining high purity eluates.

Concentration Isn't Affecting DBC

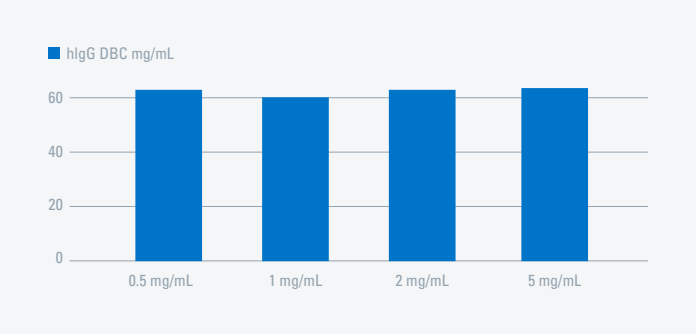

Figure 2. No decrease in dynamic bonding capacity (DBC) is observed with increasing concentrations of the antibody (mAb).

Higher DBC Than Resins, at High Flow Rates

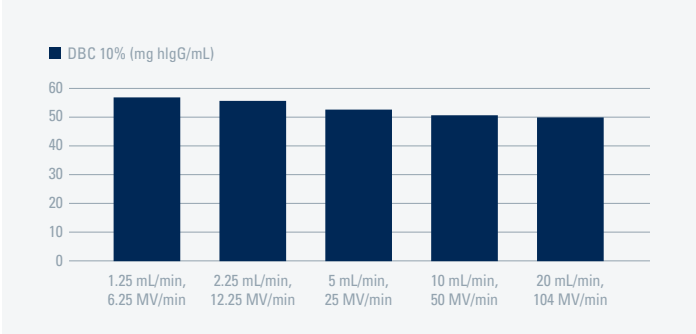

Figure 3. Flow Rate (mL/min), Membrane Volumes per minute (MV/min). Even at higher flow rates (20 mL/min), the dynamic bonding capacity (DBC) of Purexa PrA remains high.

Multiple Cycle Consistency

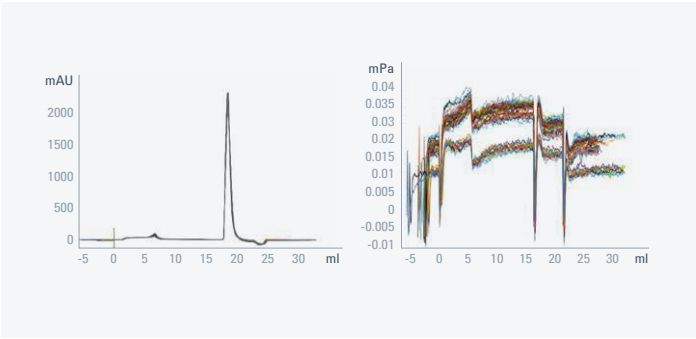

Figure 4. Purexa PrA is reusable, maintaining consistent elution performance (left) and consistent pressure levels (right) over repeated run cycles.

	Volume	Suggested Flow Rate	Binding per Unit: hIgG
Column	Maxi: 0.22 µL	2-10 mL/min	4-8 mg
Cassette	2 ml	4-20 mL/min	80 mg
	10 ml	20-100 mL/min	400 mg
Well Plate	24 Well Plate (10 mL per well)	1-2 bar operating pressure	2-2.5 mg per well

Buffer: 1x PBS (Phosphate Buffered Saline), pH = 7.3
Elution: 100 mM Sodium Acetate or Citric Acid, pH = 3.0

Interested in purification solutions for mRNA, pDNA, proteins, antibodies, and more?

Contact us at purilogicsinfo@donaldson.com

Purilogics™
By Donaldson

purilogics.com
Greenville, South Carolina, USA

Important Notice: Many factors beyond the control of Donaldson can affect the use and performance of Donaldson products in a particular application, including the conditions under which the product is used. Since these factors are uniquely within the use's knowledge and control, it is essential the user evaluate the products to determine whether the product is fit for the particular purpose and suitable for the user's application. All products, specifications, availability and data are subject to change without notice, and may vary by region or country. Results produced by internal laboratory testing. Results may vary depending on methods and parameters followed. Purilogics by Donaldson develops industry-leading membrane chromatography technologies for the biopharmaceutical industry. Our proprietary membrane chromatography products are designed for use in research & early-stage development laboratories, to support market entry where rapid drug purification is essential to discovery.