

Alkali-resistant affinity medium for Rat/Mouse/Human IgG Purification

Ab-Capcher Extra™ SERIES

Ab-Capcher Extra™ is an alkali-resistant affinity medium for IgG purification, coupled with an alkali-resistant Protein A-derivative (Protein A-R28) developed by ProteNova's patent technology. The dynamic binding capacity is approximately 70 mg human IgG/mL of medium at 100 cm/min. Protein A-R28 strongly binds to various species and subclasses of IgG, compared with Protein A and G. The coupling to resin (Ab-Capcher™) provides an alkali-washable unique affinity medium with high binding capacity for immunoglobulins, which is useful for purification of human, rabbit, and mouse IgGs including mouse IgG1. Ab-Capcher is great for immuno-precipitation experiments. Antibodies purified with Ab-Capcher Extra™ are suitable for cell-based assays*

*Endotoxin-free buffers are recommended to be used for purification.



Binding Characteristics of Ab-Capcher Extra™

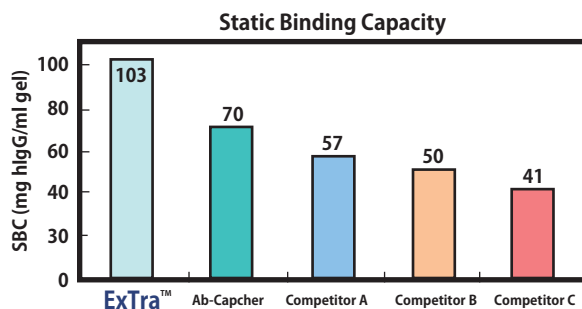
Species	Subclass	Ab-Cap	Protein A	Protein G
Mouse	IgG1	++++	+	++
	IgG2a	+++++	++++	+
Rat	IgG1	++++	-	+
	IgG2a	..*	-	+
Goat	IgGs	++++	-	+
Chicken	IgY	-	-	-
Human	IgG	+++++	++++	++
Rabbit	IgG	+++++	++++	++

*Binding not confirmed

Features and Advantages

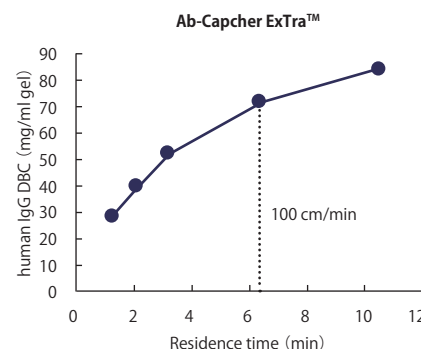
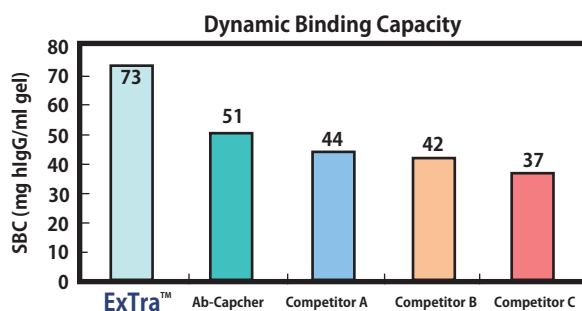
- Dynamic binding capacity (100 cm/hr) is 70 mg/mL
- Reusable by washing with alkali
- One-step purification of human, mouse, rat IgG Antibodies

Comparison of Binding Capacities



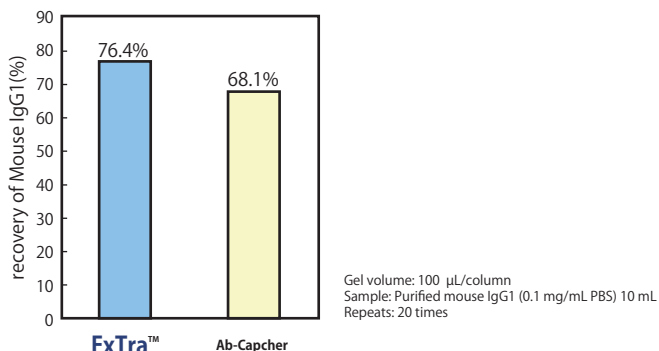
Static Binding Capacity (Maximum binding capacity)
Excess of human polyclonal IgG was applied to the gel, shaken for 1 hr at RT, washed and eluted at pH 2.8. Amount of IgG in the elution was measured.

Dynamic Binding Capacity (Applied to a column)
Human polyclonal IgG (3 mg/mL) was applied to a column (5x100 mm) at linear velocity of 100 cm/hr (0.33mL/min). DBC at 10% breakthrough was determined.



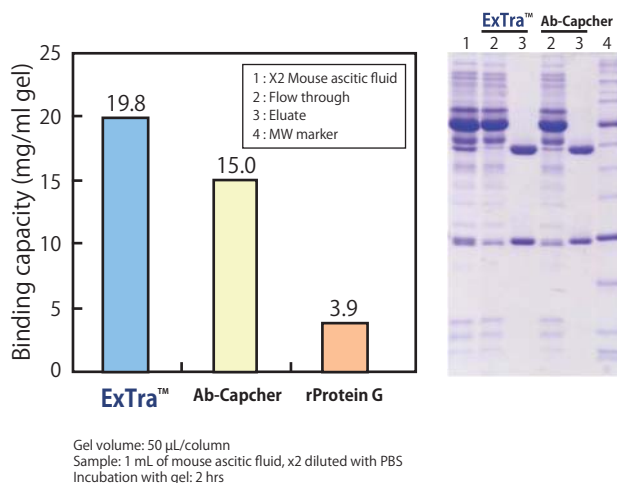
Application Data

1. Purification of mouse IgG from Low-concentration Samples by Repeated Addition



As simulation of purification from cultured medium, mouse monoclonal IgG1 at low concentration was purified by repeated addition of the sample. According to the protocol of Ab-Rapid SPiN, 0.5 mL of purified mouse IgG1 (0.1 mg/mL) was added to a SPiN column set in a centrifugal machine, stand for 4 min with sometimes mixing and centrifuged. These steps were repeated for 20 times. Total 10 mL of samples was added to the column, washed and eluted at pH2.8. Recovery (%) with Ab-Capcher ExTra us higher than that of Ab-Capcher, indicating that increasing dispersity of the medium at smaller particle size of 35 µm, influences the recovery of IgG.

2. Purification of mouse IgG1 from Ascitic Fluid



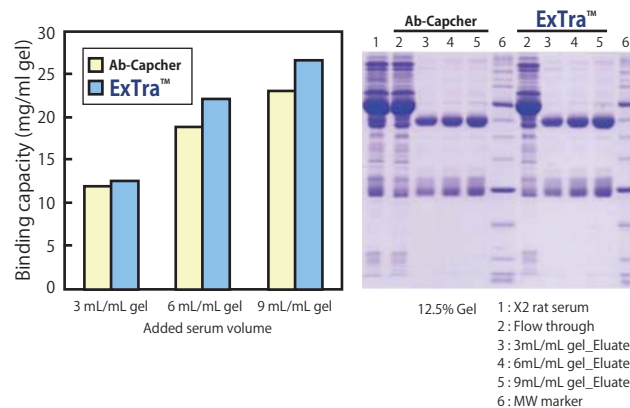
Mouse ascitic fluid was 2-fold diluted with PBS, applied to gel and shaken for 2 hrs. After washing, IgG was eluted at pH 2.8. Ab-Capcher ExTra™ shows 5.1-fold higher amount of IgG binding than that of Protein G gel and 30% higher than that of Ab-Capcher.

Specifications

Gel matrix	6% Highly Cross-linked agarose
Average particle size	35 µm
Ligand	Alkali-resistant Protein A-Derivative (Protein A-R28)
Ligand-Coupling	Secondary Amine, Multiple-point Attachment
Binding Capacity	
Static	100 mg Human IgG/mL of Medium 20 mg Mouse IgG1/mL of Medium (Purified from mouse ascites)
Dynamic**	85 mg Human IgG/mL of Medium (60 cm/hr) 70 mg Human IgG/mL of Medium (100 cm/hr)
Maximum Linear Velocity	500 cm/hr
Recommended Liner Velocity	50-150 cm/hr
Washing Conditions	0.1-0.5 M NaOH
Pyrogen Testing	Endotoxin Negative (Gel-Clot Technique)
Preservatives	20% Ethanol
Storage	4-8°C

3. Purification of rat IgGs from Rat Serum

Rat IgGs were purified from rat serum with approximately 95% recovery, showing approximately 20% higher than that of Ab-Capcher.



Ordering information

Description	Content	Cat. No.	Quantity
Ab-Capcher ExTra™	Gel	PTN-P-003-2	2 mL
		PTN-P-003-10	10 mL
Ab-Rapid SPiN Ex	Pre-packed syringe columns	PTN-P-014-5-1	2 column
		PTN-P-014-10	10 column
Ab-Rapid PuRe Ex	Pre-packed spin columns	PTN-P-015-2	2 column
		PTN-P-015-10	10 column



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