THE NEW and IMPROVED Ab-Capcher ExTra™

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™

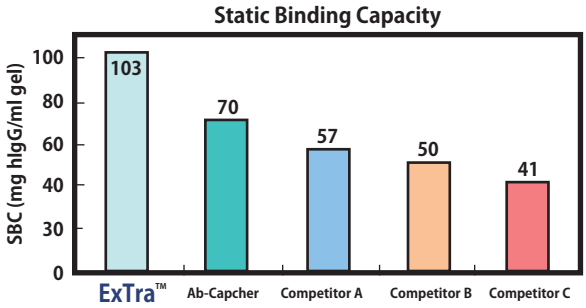
Species	Subclass	Ab-Cap	Protein A	Protein G
Mouse	IgG1	++++	+	++
	IgG2a	+++++	++++	+
Rat	IgG1	++++	-	+
	IgG2a	-*	-	+
Goat	IgGs	++++	-	+
Chicken	IgY	-	-	-
Human	IgG	+++++	++++	++
Rabbit	IgG	+++++	++++	++

*Binding not confirmed

Features and Advantages

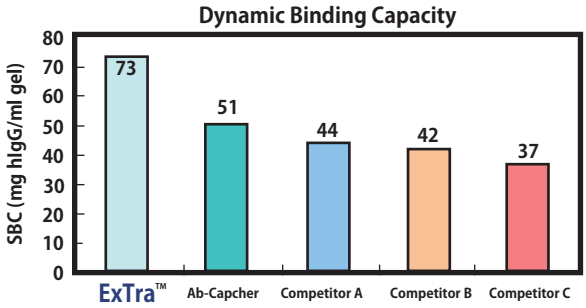
- **Dynamic binding capacity (100 cm/hr) is 70 mg/mL**
- **Reusable by washing with alkali**
- **One-step purification of human, mouse, rat IgG Antibodies**

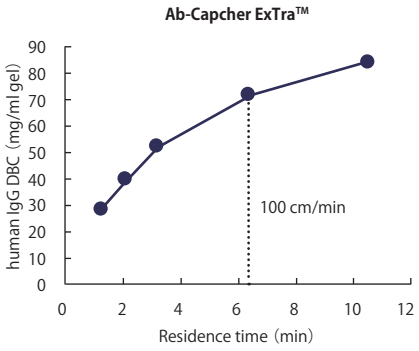
Comparison of Binding Capacities



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

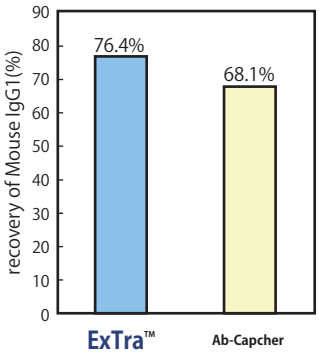
Dynamic Binding Capacity (Applied to a column)
Human polyclonal IgG (3 mg/mL) was applied to a column (5x100 mm) at linear velocity of 100 cm/hr (0.33mL/min). DBC at 10% breakthrough was determined.





Application Data

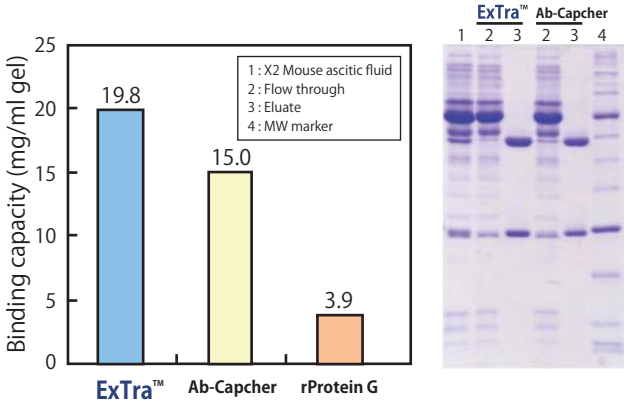
1. Purification of mouse IgG from Low-concentration Samples by Repeated Addition



Gel volume: 100 µL/column
Sample: Purified mouse IgG1 (0.1 mg/mL PBS) 10 mL
Repeats: 20 times

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



Gel volume: 50 µL/column
Sample: 1 mL of mouse ascitic fluid, x2 diluted with PBS
Incubation with gel: 2 hrs

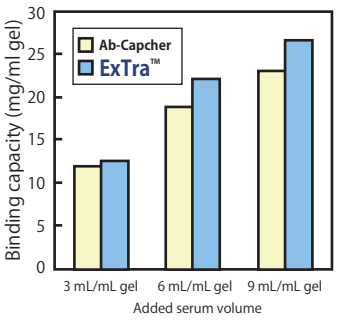
Mouse ascitic fluid was 2-fold diluted with PBS, applied to gel and shaked for 2 hrs. After washing, IgG was eluted at pH 2.8. Ab-Capcher ExTra™ shows 5.1-fold higher amount of IgG binding than that of Protein G gel and 30% higher than that of Ab-Capcher.

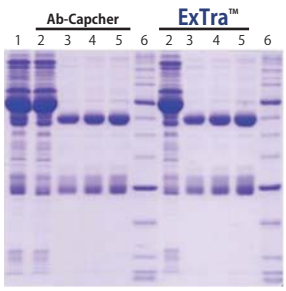
Specifications

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℃

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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