Anti-hTNF-α–hIgA1

Neutralizing human IgA1 monoclonal antibody against human TNF-α

Catalog # htnfa-mab6

For research use only, not for diagnostic or therapeutic use

Version # 11J21-MM

PRODUCT INFORMATION

Content: 100 µg purified anti-hTNF-α-hIgA1 antibody, provided azide-free and lyophilized.
Isotype: Human IgA1
Formulation: 0.2 µm filtered solution in 91 mM TRIS buffer with 91 mM glycine, 5% w/v saccharose and stabilizing agents.

Antibody resuspension

Add 1 ml of sterile water to obtain a concentration of 0.1 mg/ml.

Storage

- Product is shipped at room temperature. Store lyophilized antibody at -20°C. Lyophilized product is stable for 1 year when properly stored.
- Reconstituted antibody is stable 1 month when stored at 4°C and 6 months when aliquoted and stored at -20°C. Avoid repeated freeze-thaw cycles.

Description

Anti-hTNF-α-hIgA1 is a neutralizing monoclonal antibody featuring the constant region of the human IgA1 isotype and the variable region of adalimumab. Adalimumab is a fully human monoclonal antibody against the pro-inflammatory cytokine human tumor necrosis factor alpha (hTNF-α). Adalimumab binds to TNF-α and blocks its interaction with TNF receptors thereby downregulating the inflammatory reactions associated with autoimmune diseases, such as rheumatoid arthritis and Crohn's disease.

IgA1 plays a critical role in mucosal immunity. IgA1 is present mainly as a monomer in serum, and exists as a dimeric or polymeric complex in mucous secretions. IgA1 does not activate the complement system via the classical pathway. IgA1 can recruit neutrophils via the phagocytic IgA Fc receptor CD89.

Anti-hTNF-α-hIgA1 was generated by recombinant DNA technology. It has been produced in CHO cells and purified by affinity chromatography with peptide M / agarose. The neutralizing activity of this IgA1 antibody was determined using HEK-Blue™ TNF-α/IL-1β Cells.

Antibody Isotype Collection

For your neutralization experiments, InvivoGen proposes an anti-hTNF-α isotype collection. This collection consists of monoclonal antibodies comprising the variable region of adalimumab, and the constant region of the most common human and murine isotypes; eight in humans (IgG1, IgG2, IgG3, IgG4, IgM, IgA1, IgA2, IgE) and three in mice (IgG1, IgG2a, IgA). The isotypes differ in their functional locations and effector functions, such as CDC and ADCC, as presented in the table above.

ANTIBODY ISOTYPES

Name	Types	Description
IgG	4	Major Ig in serum, placental transfer CDC (hIgG3>hIgG1>hIgG2>hIgG4; mIgG2a>mIgG1) ADCC (hIgG1≥hIgG3>hIgG2≥IgG4; mIgG2a>mIgG1)
IgM	1	Third most common serum Ig, first Ig to be made Good CDC, some ADCC
IgA	2	Major class in secretions, second most common serum Ig monomer in serum, dimer in secretions. No CDC, some ADCC
IgE	1	Least common serum Ig, involved in allergic reaction Strong binding to Fc receptors on basophils, no CDC

APPLICATION

Anti-hTNF-α-hIgA1 is a neutralizing antibody that blocks cellular activation induced by human TNF-α (hTNF-α). The concentration of antibody required to neutralize hTNF-α activity is dependent on the cytokine concentration, cell type and growth conditions.

Neutralization

InvivoGen has determined the neutralization dose for this antibody using recombinant hTNF-α and HEK-Blue™ TNF-α/IL-1β Cells. These cells are HEK293 cells stably expressing an NF-κB–inducible SEAP (secreted embryonic alkaline phosphatase) reporter gene.
Recombinant hTNF-α was incubated with anti-hTNF-α-hIgA1 for 30 min prior to the addition of the HEK-Blue™ TNF-α/IL-1β Cells. Neutralization of TNF-α-induced signaling by anti-hTNF-α-hIgA1 was determined after a 24 hour incubation by assessing SEAP production using QUANTI-Blue™. QUANTI-Blue™ is a SEAP detection medium that turns blue following cytokine stimulation but remains pink if neutralization occurs. SEAP levels can be assessed by the naked eye or spectrophotometrically by reading the OD at 620-655 nm.

RELATED PRODUCTS

Product	Catalog Code
HEK-Blue™ TNFα/IL-1β Cells	hkb-tnfil1
QUANTI-Blue™	rep-qb1
Anti-hTNF-α-hIgG1	htnfa-mab1
Anti-hTNF-α-hIgG2	htnfa-mab2
Anti-hTNF-α-hIgG3	htnfa-mab3
Anti-hTNF-α-hIgG4	htnfa-mab4
Anti-hTNF-α-hIgM	htnfa-mab5
Anti-hTNF-α-hIgA2	htnfa-mab7
Anti-hTNF-α-hIgE	htnfa-mab8
Anti-hTNF-α-mIgG1	htnfa-mab9
Anti-hTNF-α-mIgG2a	htnfa-mab10
Anti-hTNF-α-mIgA	htnfa-mab11

An anti-CD20 (rituximab) isotype collection is also available, for more information visit www.invivogen.com/antibody-isotypes

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