Anti-hTNF-α-hlgG4
Neutralizing human IgG4 monoclonal antibody against human TNF-α
Catalog code: htnfa-mab4
https://www.invivogen.com/anti-htnfa-higg4

For research use only, not for diagnostic or therapeutic use
Version 19H22-NJ

PRODUCT INFORMATION

Contents: 100 µg purified anti-hTNF-α-hlgG4 antibody, provided azide-free and lyophilized
Target: Human tumor necrosis factor-alpha
Isotype: Human IgG4
Source: Chinese hamster ovary (CHO) cells
Purification: Affinity chromatography with protein G
Formulation: 0.2 µm filtered solution in sodium phosphate buffer with glycine, saccharose and stabilizing agents
Tested applications: Neutralization of hTNF-α signaling.

Antibody resuspension
Note: Ensure you see the lyophilized pellet before resuspension. Add 1 ml of sterile water to obtain a concentration of 0.1 mg/ml.

Storage and stability
• 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 for 1 month when stored at 4°C and for 6 months when stored at -20°C. Avoid repeated freeze-thaw cycles.

Quality control
• Human IgG4 isotype has been confirmed by ELISA.
• The neutralization of hTNF-α signaling pathway has been confirmed using cellular assays with the HEK-Blue™ TNF-α reporter cells.
• The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.

DESCRIPTION

Anti-hTNF-α-hlgG4 is a neutralizing monoclonal antibody (mAb) featuring the constant region of the human IgG4 (hlgG4) isotype and the variable region of adalimumab, a fully human therapeutic mAb that targets human tumor necrosis factor-alpha (hTNF-α). TNF-α is a pleiotropic cytokine that notably induces NF-κB-mediated production of pro-inflammatory cytokines1,2. The variable region of adalimumab blocks the interaction of TNF-α with its receptors TFNR1 and TNFR2, thereby downregulating the inflammatory responses associated with autoimmune diseases, such as rheumatoid arthritis and Crohn’s disease1,2. The hlgG4 isotype displays low to no potency for Fc-mediated antibody-dependent cellular cytotoxicity (ADCC), low potency for antibody-dependent cellular phagocytosis (ADCP), and it does not mediate complement-dependent cytotoxicity (CDC). Anti-hTNF-α-hlgG4 was generated by recombinant DNA technology. It is produced in CHO cells and purified by affinity chromatography with protein G.

Neutralization assay
InvivoGen has determined the concentration range for this antibody to block recombinant hTNF-α signaling using HEK-Blue™ TNF-α cells. These cells are HEK293 cells stably expressing an NF-κB-inducible SEAP (secreted embryonic alkaline phosphatase) reporter gene. Briefly, recombinant hTNF-α is incubated with increasing concentrations of anti-hTNF-α-hlgG4 for 30 minutes prior to the addition of HEK-Blue™ TNF-α cells. After overnight incubation, the neutralization of hTNF-α signaling by anti-hTNF-α-hlgG4 is determined by assessing SEAP activity in the culture supernatant using QUANTI-Blue™ Solution, a SEAP detection medium. QUANTI-Blue™ Solution turns from pink to blue in the presence of SEAP. Thus, the neutralization of hTNF-α signaling by the anti-hTNF-α-hlgG4 can be assessed by the naked eye or by reading the OD at 620-655 nm with a spectrophotometer.

APPLICATION

Anti-hTNF-α-hlgG4 is a neutralizing antibody that blocks cellular activation induced by hTNF-α. The concentration of antibody required to neutralize hTNF-α activity is dependent on the cytokine concentration, cell type and growth conditions.

RELATED PRODUCTS

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<td>Anti-hTNF-α-hlgA2</td>
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<td>Anti-β-Gal-hlgG4</td>
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<td>HEK-Blue™ TNF-α Cells</td>
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