

Anti-hTLR4-IgG

Neutralizing IgG monoclonal antibody to human TLR4

Catalog code: mabg-hltr4-2

<https://www.invivogen.com/anti-hltr4-igg>

For research use only

Version 23L11-MM

PRODUCT INFORMATION

Contents

- 2 x 100 µg purified Anti-hTLR4-IgG antibody, provided azide-free and lyophilized

Target: Human Toll-like receptor 4 (hTLR4)

Specificity: No cross-reactivity with murine TLR4

Clone: W7C11

Isotype: Mouse IgG1

Light chain type: Kappa

Immunogen: hTLR4

Formulation: 0.2 µm filtered solution in a sodium phosphate buffer with glycine, saccharose, and stabilizing agents

Applications: Block/neutralize

Antibody resuspension (0.1 mg/ml)

Add 1 ml of sterile water per 100 µg vial.

Storage and stability

- Product is shipped at room temperature. Upon receipt, store lyophilized antibody at -20 °C.
- Reconstituted antibody is stable for 1 month at 4 °C and for 1 year at -20 °C. Avoid repeated freeze-thaw cycles.

Quality Control:

- This product has been validated for neutralization.
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.

BACKGROUND

Toll-like receptor 4 (TLR4) primarily recognizes and is activated by lipopolysaccharide (LPS) and its toxic moiety Lipid A, a core component of Gram-negative bacteria¹. At the cell surface, activation of TLR4 initiates the MyD88-dependent pathway, ultimately leading to the 'early' activation of NF-κB and the production of a pro-inflammatory response². Subsequently, the TLR4 complex can be endocytosed into endosomes and result in the 'late' activation of NF-κB as well as the stimulation of IRF3 (interferon regulatory factor), which modulates the expression of type I interferons (IFNs)³.

1. **Cochet, F. et al., 2017.** The Role of Carbohydrates in the Lipopolysaccharide (LPS)/Toll-Like Receptor 4 (TLR4) Signalling. *Int J Mol Sci* 18. 2. **Kuzmich, N.N. et al., 2017.** TLR4 Signaling Pathway Modulators as Potential Therapeutics in Inflammation and Sepsis. *Vaccines (Basel)* 5. 3. **Marongiu, L. et al., 2019.** Below the surface: The inner lives of TLR4 and TLR9. *J Leukoc Biol* 106, 147-160.

DESCRIPTION

Anti-hTLR4-IgG is a neutralizing antibody, it blocks LPS-induced cellular activation. Anti-hTLR4-IgG has been selected for its ability to efficiently neutralize the biological activity of hTLR4. The antibody has been produced in hybridoma cells and purified by affinity chromatography.

APPLICATIONS

Anti-hTLR4-IgG is a neutralizing antibody, it blocks LPS-induced cellular activation as described below.

Neutralization

The exact concentration of antibody required to neutralize human TLR4 activity is dependent on the TLR4 agonist used and its concentration, cell type and growth conditions. InvivoGen has determined the neutralization dose for this antibody using ultrapure LPS from *Escherichia coli* K12 (LPS-EK Ultrapure) and HEK-Blue™ hTLR4 cells. These cells are engineered HEK293 cells stably expressing human TLR4, MD2 and CD14 and an NF-κB-inducible SEAP (secreted embryonic alkaline phosphatase) reporter gene. For more information, visit www.invivogen.com/hek-blue-tlr4.

Procedure for neutralization using HEK-Blue™ hTLR4 cells

1. Add 100 µl of Anti-hTLR4-IgG or control antibody (100 ng/ml-10 µg/ml final concentration) per well.
- Note: We recommend using Mouse Control IgG1 (which targets E. coli β-galactosidase) as a negative control antibody.*
2. Add 100 µl of HEK-Blue™ hTLR4 cell suspension (~25,000 cells) per well.
3. Incubate for 1 hour at 37°C in a 5% CO₂ incubator.
4. Add 50 µl LPS-EK Ultrapure (1 ng/ml final concentration).
5. Incubate the plate at 37°C in a 5% CO₂ incubator for 18-24 h.
6. Monitor SEAP production using a SEAP detection assay such as QUANTI-Blue™ Solution.

RELATED PRODUCTS

Product	Description	Cat.Code
HEK-Blue™ hTLR4 Cells	TLR4 reporter cells	hkb-hltr4
Mouse Control IgG1	Isotype control antibody	mabg1-ctrlm
QUANTI-Blue™ Solution	SEAP detection reagent	rep-qbs
LPS-EK Ultrapure	TLR4 ligand	tlrl-pekips

TECHNICAL SUPPORT

InvivoGen USA (Toll-Free): 888-457-5873

InvivoGen USA (International): +1 (858) 457-5873

InvivoGen Europe: +33 (0) 5-62-71-69-39

InvivoGen Asia: +852 3622-3480

E-mail: info@invivogen.com

