

Anti-hTLR2-IgA2

Detection and neutralizing IgA2 monoclonal antibody to human TLR2

Catalog code: htlr2-mab7-2

<https://www.invivogen.com/anti-htlr2-iga>

For research use only

Version 24F24-NJ

PRODUCT INFORMATION

Contents

• 2 x 100 µg purified Anti-hTLR2-IgA2 antibody, provided azide-free and lyophilized

Target: Human Toll-like receptor 2 (hTLR2)

Specificity: No cross-reactivity with murine TLR2

Clone: B4H2

Isotype: Human IgA2

Light chain type: Kappa

Formulation: 0.2 µm filtered solution in Tris HCl buffer with saccharose, glycine, and stabilizing agents

Applications: Block/neutralize; Flow cytometry

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 using cellular assays.
- Binding of Anti-hTLR2-IgA2 to hTLR2 on cells has been validated using flow cytometry.
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.

BACKGROUND

TLR2 plays an essential role in detecting a diverse range of microbial pathogen-associated molecular patterns (PAMPs) from bacteria, fungi, and parasites, including lipoproteins, lipoteichoic acid, lipoarabinomannan, and chitin¹. A number of viruses have also been shown to interact directly with TLR2, including HIV and herpes simplex virus^{1,2}. TLR2 forms a heterodimer on the cell surface with either of its co-receptors, TLR1 or TLR6, which is crucial for signaling and ligand specificity. The TLR2/TLR1 and TLR2/TLR6 heterodimers specifically bind lipoproteins depending on whether they are tri- or diacylated, respectively¹. Their activation triggers pro-inflammatory responses³.

1. Oliveira-Nascimento L. *et al.*, 2012. The Role of TLR2 in Infection and Immunity. *Front Immunol* 3:79. 2. Henrick B.M. *et al.*, 2015. HIV-1 Structural Proteins Serve as PAMPs for TLR2 Heterodimers Significantly Increasing Infection and Innate Immune Activation. *Front Immunol* 6:426. 3. Li J. *et al.*, 2013. Evolving Bacterial Envelopes and Plasticity of TLR2-Dependent Responses: Basic Research and Translational Opportunities. *Front Immunol* 4:347.

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

DESCRIPTION

Anti-hTLR2-IgA2 is a chimeric monoclonal antibody specific for hTLR2 (CD282). It was generated by combining the constant domains of the human IgA2 molecule with murine variable regions. Anti-hTLR2-IgA2 has been selected for its ability to efficiently neutralize the biological activity of TLR2. It can also be used to detect hTLR2 using flow cytometry. This antibody has been produced in Chinese hamster ovary (CHO) cells and purified by affinity chromatography.

APPLICATIONS

Anti-hTLR2-IgA2 is a detection and neutralizing antibody. It can be used to block hTLR2-induced cellular activation *in vitro*, as described below.

NEUTRALIZATION PROTOCOL

The exact concentration of antibody required to neutralize hTLR2 activity is dependent on the TLR2 agonist used and its concentration, cell type and growth conditions. InvivoGen has determined the neutralization dose for this antibody using the ligand [FSL-1](#) and [HEK-Blue™ hTLR2 cells](#). These cells are engineered HEK293 cells stably expressing hTLR2 and an NF-κB-inducible SEAP (secreted embryonic alkaline phosphatase) reporter gene. For more information, visit www.invivogen.com/hek-blue-trl2.

In a 96-well plate:

1. Add 100 µl of Anti-hTLR2-IgA2 (100 ng/ml - 10 µg/ml final concentration) per well.

*Note: We recommend using [Anti-β-Gal-hlgA2](#) (which targets *E. coli* β-galactosidase) as a negative control antibody.*

2. Add 100 µl of [HEK-Blue™ hTLR2 cell](#) suspension (~50,000 cells) per well.

3. Incubate for 1 hour at 37°C in a 5% CO₂ incubator.

4. Add 50 µl of human TLR2 agonist, such as [FSL-1](#) (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 [QUANTI-Blue™ Solution](#) following the instructions on the data sheet.

RELATED PRODUCTS

Product	Description	Cat.Code
HEK-Blue™ hTLR2 Cells	TLR2 reporter cells	hkb-htlr2
Anti-β-Gal-hlgA2	Isotype control	bgal-mab7
FSL-1	TLR2 ligand	tlrl-fsl
QUANTI-Blue™ Solution	SEAP detection reagent	rep-qbs

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