

MAB-mTLR2

Neutralizing and detection IgG monoclonal antibody to murine TLR2

Catalog code: mab2-mtlr2, mab2-mtlr2-02

<https://www.invivogen.com/mab-mtlr2>

For research use only, not for diagnostic or therapeutic use

Version 23L15-MM

PRODUCT INFORMATION

Contents: MAb-mTLR2 purified monoclonal antibody (mAb) is provided azide-free and lyophilized. It is available in two quantities:

mab2-mtlr2: 100 µg MAb-mTLR2

mab2-mtlr2-02: 2 x 100 µg MAb-mTLR2

Target: Murine Toll-like receptor 2 (mTLR2, CD282)

Specificity: Reacts with human and murine TLR2

Source: CHO cells

Clone: T2.5

Isotype: Mouse IgG1

Light chain type: Kappa

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

Applications: Block/neutralize; Flow cytometry; Immunohistology on frozen tissue sections; Immunoprecipitation

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 to mTLR2 on cells has been validated using flow cytometry.
- The complete sequence of this antibody has been verified.
- 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. 4. Leemans J.C. *et al.*, 2005. Renal-associated TLR2 mediates ischemia/reperfusion injury in the kidney. *J Clin Invest.* 115(10):2894-903.

DESCRIPTION

MAb-mTLR2 (T2.5) is a monoclonal antibody that reacts with murine Toll-like receptor 2 (TLR2, CD282). MAb-mTLR2 is an antagonistic antibody. The antibody is cross reactive with human TLR2.

MAb-mTLR2 was generated by recombinant DNA technology. It has been produced in CHO cells and purified by affinity chromatography.

APPLICATIONS

MAb-mTLR2 (T2.5) can be used for flow cytometry and neutralization as described below. MAb-mTLR2 can also be used for immunohistology on frozen tissue sections and immunoprecipitation⁴.

Neutralization

The exact concentration of antibody required to neutralize mTLR2 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™ mTLR2 cells**. These cells are engineered HEK293 cells stably expressing mTLR2 and an NF-κB-inducible SEAP (secreted embryonic alkaline phosphatase) reporter gene. For more information, visit www.invivogen.com/hek-blue-trlr2.

Procedure for neutralization using HEK-Blue™ mTLR2 cells

1. Add 100 µl of MAb-mTLR2 or control antibody (100 ng/ml-10 µg/ml final concentration) per well of a 96-well plate.

Note: We recommend using Mouse IgG1 Control (which targets E. coli β-galactosidase) as a negative control antibody.

2. Add 100 µl of **HEK-Blue™ mTLR2 cell** suspension (~50,000 cells) per well.

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

4. Add 50 µl **FSL-1** (0.1 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**, a SEAP detection reagent.

Flow Cytometry

MAb-mTLR2 (TL2.5) was used at 500-2000 ng/10⁶ cells with a PE goat anti-mouse IgG secondary antibody for indirect immunofluorescence staining of **HEK-Blue™ mTLR2 cells**.

RELATED PRODUCTS

Product	Description	Cat.Code
HEK-Blue™ mTLR2 Cells	TLR2 reporter cells	hkb-mtlr2
Mouse IgG1 Control	Isotype control antibody	mabg1-ctrlm
FSL-1	TLR2 ligand	tlrl-fsl
QUANTI-Blue™ Solution	SEAP detection reagent	rep-qbs

TECHNICAL SUPPORT

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