

MAb hTLR3

Purified monoclonal antibody to human TLR3

Catalog # mab-htlr3

For research use only, not for diagnostic or therapeutic use

Version # 06E22-MT

PRODUCT INFORMATION

Content

100 µg purified monoclonal anti-hTLR3 antibody (MAb-hTLR3), provided lyophilized

Clone: TL3.7

Isotype: Mouse IgG1

Formulation: PBS pH 7.4, 0.05% sodium azide

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 MAb-hTLR3 at -20°C. Product is stable for 1 year.

- Resuspended MAb-hTLR3 is stable up to 1 year when stored at -20°C.

Description

MAb hTLR3 (TLR3.7) is a monoclonal antibody that reacts with human Toll-like receptor 3 (TLR3, CD283). MAb hTLR3 was shown to suppress poly(I:C)-mediated IFN-β production by human fibroblasts naturally expressing TLR3 on their surface¹.

BACKGROUND

Toll-Like receptors (TLRs) play a critical role in early innate immunity to invading pathogens by sensing microorganisms. These evolutionary conserved receptors recognize highly conserved structural motifs only expressed by microbial pathogens, called pathogen-associated microbial patterns (PAMPs). Stimulation of TLRs by PAMPs initiates a signaling cascade leading to the secretion of proinflammatory cytokines following NF-κB activation. To date ten human and twelve murine TLRs have been characterized, TLR1 to TLR10 in humans, and TLR1 to TLR9, TLR11, TLR12 (aka TLR11) and TLR13 in mice, the homolog of TLR10 being a pseudogene.

TLR3 recognizes double-stranded RNA (dsRNA), a molecular pattern associated with viral infection. Stimulation with poly(I:C), a synthetic analog of dsRNA, was shown to induce hyporesponsiveness in TLR3-deficient mice and considerable responsiveness in HEK293 cells expressing TLR3², suggesting a specific recognition to poly(I:C) by TLR3. TLR3 signals mainly through a MyD88-independent pathway involving the TRIF/TICAM1 adapter protein that leads to the production of IFN-β and causes dendritic cells to mature³.

Note: HEK293 cells express low levels of TLR3 mRNA⁴

APPLICATIONS

MAb hTLR3 (TLR3.7) can be used for intra cellular flow cytometry and Western blotting. Furthermore the antibody is useful for *in vitro* inhibition by the ligand poly(I:C).

Use

For flow cytometry and Western blotting, dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:10. For inhibition studies, dilutions have to be made according to the amounts of poly(I:C) to be inactivated.

References

1. Matsumoto M. *et al.*, 2002. Establishment of a monoclonal antibody against human Toll-like receptor 3 that blocks double-stranded RNA-mediated signaling. *Biochem Biophys Res Commun.* 293:1364-9
2. Alexopoulou L. *et al.*, 2001. Recognition of double-stranded RNA and activation of NF-κappaB by Toll-like receptor 3. *Nature*, 413(6857):732-8.
3. Yamamoto M. *et al.* 2002. Cutting edge: A novel Toll/IL-1 receptor domain-containing adapter that preferentially activates the IFN-β promoter in the Toll-like receptor signaling. *J Immunol*, 169(12):6668-6672
4. Kariko K. *et al.*, 2004. Small interfering RNAs mediate sequence-independent gene suppression and induce immune activation by signaling through toll-like receptor 3. *J Immunol.* 172(11):6545-9.

RELATED PRODUCTS

Product	Catalog Code
293/hTLR3	293-htlr3
pUNO-hTLR3 (human gene)	puno-htlr3
Poly(I:C)	tlr1-pic

TECHNICAL SUPPORT

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