

MAB mTLR9

Purified monoclonal antibody to mouse TLR9

Catalog # mab-mtlr9

For research use only, not for diagnostic or therapeutic use

Version # 06F28-SV

PRODUCT INFORMATION

Content

100 µg purified monoclonal anti-mTLR9 antibody (MAB-mTLR9), provided lyophilized

Clone: 5G5

Isotype: Mouse IgG2a

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-mTLR9 at -20°C. Product is stable for 1 year.

- Resuspended MAB-mTLR9 is stable up to 1 year when stored at -20°C.

Description

MAB mTLR9 (5G5) is a monoclonal antibody that reacts with mouse Toll-like receptor 9 (TLR9, CD289). MAB mTLR9 is weakly cross reactive with human TLR9.

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. TLR9 is expressed in the ER of resting cells in contrast to most TLRs that are located on the plasma membrane¹. TLR9 recognizes specific

unmethylated CpG-ODN sequences, that distinguish bacterial DNA from mammalian DNA. TLR9 engages an intracellular pathway that involves MyD88 leading to NF-κB translocation². TLR9 recognizes different CpG motifs; the optimal sequences being GTCGTT and GACGTT for hTLR9 and mTLR9 respectively³. TLR9 binds directly to CpG DNA and recognizes specifically CpG DNA that is unmethylated and single stranded⁴.

APPLICATIONS

MAB mTLR9 (5G5) can be used for flow cytometry, Western blotting and immuno assays as a detection antibody. It can also be used for immunohistology on frozen tissue sections and immunoprecipitation.

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 1:50.

References

1. Latz E. et al., 2004. TLR9 signals after translocating from the ER to CpG DNA in the lysosome. *Nat Immunol.* 5(2):190-8.
2. Chuang TH. et al., 2002. Toll-like receptor 9 mediates CpG-DNA signaling. *J Leukoc Biol.* 71(3):538-44.
3. Bauer S. et al., 2001. Human TLR9 confers responsiveness to bacterial DNA via species-specific CpG motif recognition. *Proc Natl. Acad Sci USA*, 98(16):9237-42.
4. Rutz M. et al., 2004. Toll-like receptor 9 binds single-stranded CpG-DNA in a sequence- and pH-dependent manner. *Eur J Immunol.* 34(9):2541-50.

RELATED PRODUCTS

Product	Catalog Code
293/mTLR9	293-mtlr9
pUNO-mTLR9	puno-mtlr9
ODN 1826	tlrl-modn

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