BIOTINYLATED MONOCLONAL ANTIBODY TO
HUMAN TOLL-LIKE RECEPTOR 4 (TLR4, CD284)
close HTA125

Catalog no: HM2069 (lot number and expiry date are indicated on the label)

Description:
Toll-like receptors (TLRs) are highly conserved from Drosophila to humans and share structural and functional similarities. TLRs constitute a family of pattern recognition receptors (PRRs) that mediate cellular responses to a large variety of pathogens (viruses, bacteria, and parasites) by specific recognition of so-called ‘pathogen-associated molecular patterns’. Activation of TLRs, a family of at least 11 different members that function either as homo- or heterodimers, leads to activation of NFκB-dependent and IFN-regulatory factor-dependent signaling pathways. TLRs have a central role in innate immunity and are also required for the development of an adaptive immune response. TLRs are expressed by various cells of the immune system, such as macrophages and dendritic cells. TLRs are class I receptors, with a single α-helix that spans the cell membrane. They recognize and respond to molecules derived from bacterial, viral and fungal pathogens, such as lipopolysaccharide (LPS) from the outer membrane of Gram negative bacteria, peptidoglycan fragments from bacterial cell walls and single-stranded and double-stranded RNA from viruses. Toll-like receptor 4 (TLR4; CD284) has been identified, next to MD-2 and CD14, as a receptor that is central to the innate immune response to LPS of Gram-negative bacteria. TLR4 is unique among TLRs in its ability to activate two distinct signaling pathways; one pathway is activated by the adaptors TIRAP (Toll/interleukin-1 receptor (TIR)-domain-containing adaptor protein) and MyD88, which leads to the induction of pro-inflammatory cytokines. The second pathway is activated by the adaptors TRIF (TIR-domaincontaining adaptor protein inducing interferon-β) and TRAM (TRIFRelated adaptor molecule), which leads to the induction of type I interferons. The monoclonal antibody HTA125 is a TLR4 function-blocking antibody. HTA125 recognizes preferentially human TLR4 that is associated with MD-2.

Aliases: TLR4, CD284, ARMD10

Immunogen: BALB/c mice were immunized with the Ba/F3 line expressing TLR4.

Species: Mouse IgG2a

Cross reactivity

<table>
<thead>
<tr>
<th>Cross reactant</th>
<th>Reactivity</th>
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<tbody>
<tr>
<td>Canine</td>
<td>Yes</td>
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<tr>
<td>Cynomolgus monkey</td>
<td>Yes</td>
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<tr>
<td>Rhesus monkey</td>
<td>Yes</td>
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<tr>
<td>Marmoset monkey</td>
<td>Yes</td>
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</table>

Formulation:
0.5 ml (100 µg/ml) 0.2 µm filtered antibody solution in PBS, containing 0.1% bovine serum albumin and 0.02% sodium azide

Application

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<tr>
<th>Application</th>
<th>F</th>
<th>FC</th>
<th>FS</th>
<th>IA</th>
<th>IF</th>
<th>IP</th>
<th>P</th>
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N.D. = Not Determined; F = Frozen sections; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IF = Immuno Fluorescence; IP = Immuno Precipitation; P = Paraffin sections; W = Western blot

Application notes
FC: 300000 cells/50µl were stained with 2 µg antibody for 30 minutes at 4°C
FS: In cell culture 10 µg/ml
IF: Oregon green labeled HTA125 was used in FRAP measurements
IP: HTA125 (4 mg/ml) coupled to Sepharose 4F beads was added to cell lysate and incubated for 2 hours at 4°C
W: 20 mg protein was analyzed on SDS-PAGE and transferred to nitrocellulose. Blot was blocked with TBS/5%/dry milk/0.1% Tween-20
References

2. Tabeta, K et al; Toll-like receptors confer responsiveness to lipopolysaccharide from porphyromonas gingivalis in human gingival fibroblasts. Infect Immun 2000, 68: 3731

Use

For immunohistochemistry and flow cytometry, 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. For functional studies, in vitro dilutions have to be optimized in user’s experimental setting.

Positive control

Macrophages

Negative control

HEK293 cells

Storage and stability

Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least one year. The exact expiry date is indicated on the label.

Precautions

For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

Also available

HM2064 Monoclonal antibody against Human TLR2 (CD282), clone TL2.1
HM2066 Monoclonal antibody against Human TLR2 (CD282), clone TL2.3
HM2068 Monoclonal antibody against Human TLR4 (CD284), clone HTA125
HM2068F FITC conjugated monoclonal antibody against Human TLR4 (CD284), clone HTA125
HM2085 Monoclonal antibody against Human TLR1 (CD281), clone GD2.F4

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