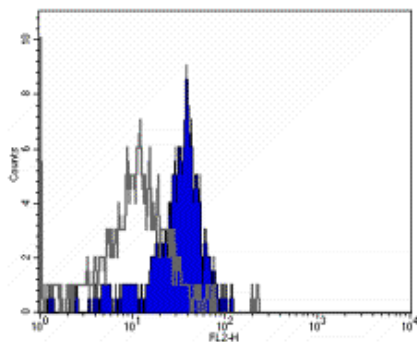


## Anti-Human CD284 (TLR4) Functional Grade Purified

Catalog Number: 16-9917

Also Known As: TLR-4, toll-like receptor 4

RUO: For Research Use Only



Staining of normal human peripheral blood cells with Mouse IgG2a Isotype Control (cat. 16-4724) or Anti-Human CD284 (TLR4) Functional Grade Purified. Cells in the monocyte population were used for analysis.

### Product Information

**Contents:** Anti-Human CD284 (TLR4) Functional Grade Purified

**REF** **Catalog Number:** 16-9917

**Clone:** HTA125

**Concentration:** 1 mg/ml

**Host/Isotype:** Mouse IgG2a,  $\kappa$

**Handling Conditions:** Use in sterile environment.

**Endotoxin Level:** Less than 0.001 ng/ug antibody, as determined by the LAL assay.

**Formulation:** aqueous buffer, no sodium azide



**Temperature Limitation:** Store at 2-8°C.



**Batch Code:** Refer to Vial



**Use By:** Refer to Vial

### Description

The HTA125 monoclonal antibody reacts with human Toll-like receptor 4 (TLR4). So far, at least ten members of the Toll family have been identified in humans. This family of type I transmembrane proteins is characterized by an extracellular domain with leucine-rich repeats and a cytoplasmic domain with homology to the type I IL-1 receptor. Two of these receptors, TLR2 and TLR4, are pattern recognition receptors and signaling molecules in response to bacterial lipoproteins and have been implicated in innate immunity and inflammation. TLR4 physically associates with another molecule called MD-2, and together with CD14, this complex is responsible for LPS recognition and signaling. TLR4 is expressed by peripheral blood monocytes. HTA125 has been reported to immunoprecipitate human TLR4 (~100 kDa) from transfected cells. Most TLR cell surface expression, especially TLR1 and TLR4, occurs at low levels on monocytes and at even lower levels on other cell types including granulocytes and immature dendritic cells (iDC). Furthermore, a relatively high degree of variability in TLR surface expression has been reported among normal donors.

### Applications Reported

The HTA125 antibody has been reported for use in flow cytometric analysis. It has also been reported in blocking of LPS-induced cytokine production. For detection of peripheral monocytes, a three step staining protocol is recommended using purified anti-human TLR4 followed by biotin anti-mouse IgG and streptavidin-PE.

### Applications Tested

The HTA125 antibody has been tested by flow cytometric analysis of human peripheral blood leukocytes. This can be used at less than or equal to 1  $\mu$ g per test. A test is defined as the amount ( $\mu$ g) of antibody that will stain a cell sample in a final volume of 100  $\mu$ L. Cell number should be determined empirically but can range from  $10^5$  to  $10^8$  cells/test. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest.

It is highly recommended that for optimal staining of TLR4, whole blood be stained using the LWB protocol rather than Ficoll-gradient prepared PBMCs. The use of a density gradient appears to reduce the staining intensity significantly.

### References

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Akashi, S., H. Ogata, et al. 2000. Regulatory roles for CD14 and phosphatidylinositol in the signaling via toll-like receptor 4-MD-2. *Biochem Biophys Res Commun.* 268(1): 172-7.

Shimazu, R., S. Akashi, et al. 1999. MD-2, a molecule that confers lipopolysaccharide responsiveness on Toll-like receptor 4. *J Exp Med.* 189(11): 1777-82.

de Graaf R, Kloppenburg G, et al. 2006. Human heat shock protein 60 stimulates vascular smooth muscle cell proliferation through Toll-like receptors 2 and 4. *Microbes Infect.* 8(7):1859-65. (HTA125, IHC paraffin, PubMed)

Mirlashari MR and Lyberg T. 2003. Expression and involvement of Toll-like receptors (TLR)2, TLR4, and CD14 in monocyte TNF-alpha production induced by lipopolysaccharides from *Neisseria meningitidis*. *Med Sci Monit.* 9(8):BR316-24. (HTA125, FA, PubMed)

**Related Products**

12-4317 Streptavidin PE

13-4013 Anti-Mouse IgG Biotin (Polyclonal)

14-8185 B18R Recombinant Protein

14-9920 Anti-Human CD284 (TLR4) Purified (Polyclonal)

16-4724 Mouse IgG2a K Isotype Control Functional Grade Purified

34-8185 B18R Recombinant Protein Carrier-Free

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