

Product Information



Toll-Like Receptor 4 Monoclonal Antibody (Clone HTA125)

Item No. 13589

Contents:	This vial contains 100 µg of Protein G purified IgG in 200 µl PBS containing 0.05% BSA and 0.05% sodium azide.
Synonym:	TLR4
Antigen:	Ba/F3 cell line expressing human TLR4 cell surface antigen
GenBank	
Accession No.:	NP_612564
Isotype:	IgG _{2aκ}
Host:	Mouse, clone HTA125
Cross Reactivity:	(+) Human and canine TLR4
Storage:	≤6 months at 4°C; ≥6 months at -20°C
Applications:	Flow cytometry (FC) (cell surface and intracellular), immunocytochemistry, immunoprecipitation, and neutralization. The recommended starting concentration for FC (cell surface) is 2-3 µg/1x10 ⁶ cells.

The toll-like receptors (TLRs) in mammals comprise a family of transmembrane proteins characterized by multiple copies of leucine rich repeats in the extracellular domain and an interleukin-1 (IL-1) receptor motif in the cytoplasmic domain. Like their counterparts in *Drosophila*, TLRs signal through adaptor molecules.¹ The TLR family is a phylogenetically conserved mediator of innate immunity that is essential for microbial recognition.² Most mammalian species have between ten and fifteen types of TLRs. Ten functional TLRs (TLR1-10) have been identified in human. Humans also encode a TLR11 gene but it contains several stop codons and protein is not expressed. However, mouse and rat TLR11 are functional, and it is thought that human TLR11 function was lost during evolution. Historically speaking, TLR expression has been most extensively studied in the immune system. Overall, TLRs are highly expressed in immune competent cells, including macrophages, dendritic cells, neutrophils, mucosal epithelial cells and dermal endothelial cells. However, TLRs have also been identified in many other cell types and anatomical tissue locations where they are expressed either constitutively or induced during infection. Among this family of receptors TLR2 and TLR4 have been most studied. These studies have suggested that TLR2 and TLR4 may serve as potential main mediators of LPS signaling.^{3,4} The TLR4 cDNA codes for a protein consisting of 799 amino acids with approximate molecular weight of 88 kDa.⁵

References

1. Srivastava, M.D., Srivastava, B.I.S. Expression of mRNA and proteins for toll-like receptors, associated molecules, defensins and LL-37 by SRIK-NKL, and CD⁸ NK/T cell line. *Leukemia Research* **29**(7), 813-820 (2005).
2. Gibson, F.C., Hong, C., Chou, H.-H., *et al.* Innate immune recognition of invasive bacteria accelerates atherosclerosis in apolipoprotein E-deficient mice. *Circulation* **109**, 2801-2806 (2004).
3. Cognasse, F., Hamzeh, H., Chavarin, P., *et al.* Evidence of toll-like receptor molecules on human platelets. *Immunology & Cell Biology* **83**, 196-198 (2005).
4. Wong, C.K., Cheung, P.F.Y., Ip, W.K., *et al.* Intracellular signaling mechanisms regulating toll-like receptor-mediated activation of eosinophils. *Am. J. Respir. Cell and Mol. Biol.* **37**, 85-96 (2007).
5. Scheel, O., Papavlassopoulos, M., Clunck, R., *et al.* Cell activation by ligands of the toll-like receptor and interleukin-1-receptor family depends on the function of the large-conductance potassium channel maxiK in human macrophages. *Infection and Immunity* **74**(7), 4354-4356 (2006).

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SAFETY DATA

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