

# Product Information

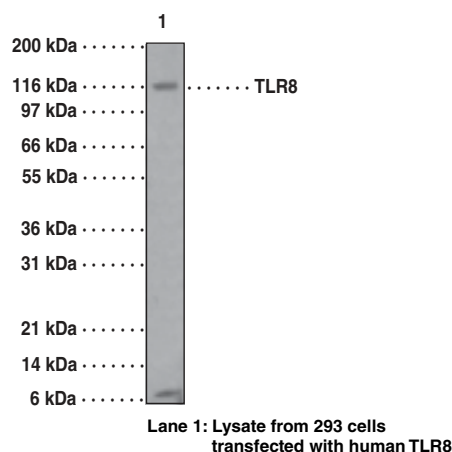


## Toll-Like Receptor 8 Monoclonal Antibody (Clone 44C143)

Item No. 13592

<b>Contents:</b>	This vial contains 100 µg of protein G-purified IgG in 200 µl PBS containing 0.05% BSA and 0.05% sodium azide.
<b>Synonym:</b>	TLR8
<b>Antigen:</b>	Synthetic peptide from human TLR8 within the region of amino acids 750-850
<b>Isotype:</b>	IgG <sub>1κ</sub>
<b>Host:</b>	Mouse
<b>Cross Reactivity:</b>	(+) Human and mouse TLR8
<b>Storage:</b>	≤6 months at 4°C; ≥6 months at -20°C
<b>Applications:</b>	Western blot (WB), flow cytometry (FC) (intracellular and cell surface), and immunohistochemistry (IHC) (paraffin-embedded sections). The recommended starting dilution for WB is 1-3 µg/ml, FC (intracellular and cell surface) is 0.5-1 µg/1x10 <sup>6</sup> cells, and IHC (paraffin-embedded sections) is 5 µg/ml.

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.<sup>1</sup> The TLR family is a phylogenetically conserved mediator of innate immunity that is essential for microbial recognition.<sup>2</sup> 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. The TLR8 gene contains three exons, two of which have coding function.<sup>3</sup> TLR8 cDNA codes for a protein of approximate molecular weight of 120 kDa.<sup>3,4</sup>



### 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 CD<sup>8</sup> 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. Du, X., Poltorak, A., Wei, Y., *et al.* Three novel mammalian toll-like receptors: Gene structure, expression, and evolution. *Eur. Cytokine Netw.* **11**(3), 362-371 (2000).
4. Chuang, T.H., Ulevitch, R.J. Cloning and characterization of a sub-family of human toll-like receptors: hTLR7, hTLR8, and hTLR9. *Eur. Cytokine Netw.* **11**(3), 372-378 (2000).

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