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Toll-like Receptor 4 Antibody

For Research Use Only. Not for Use in Diagnostic Procedures.

MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
90	Rabbit	#O00206	7099

Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.
Specificity/Sensitivity	Toll-like Receptor 4 Antibody detects endogenous levels of total TLR4 protein. Cross reactivity was not detected with other family members at physiological conditions.
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding serine 681 of human TLR4. Antibodies are purified by protein A and peptide affinity chromatography.
Background	Members of the Toll-like receptor (TLR) family, named for the closely related Toll receptor in <i>Drosophila</i> , play a pivotal role in innate immune responses (1-4). TLRs recognize conserved motifs found in various pathogens and mediate defense responses (5-7). Triggering of the TLR pathway leads to the activation of NF-κB and subsequent regulation of immune and inflammatory genes (4). The TLRs and members of the IL-1 receptor family share a conserved stretch of approximately 200 amino acids known as the Toll/Interleukin-1 receptor (TIR) domain (1). Upon activation, TLRs associate with a number of cytoplasmic adapter proteins containing TIR domains, including myeloid differentiation factor 88 (MyD88), MyD88-adapter-like/TIR-associated protein (MAL/TIRAP), TIR domain-containing adapter-inducing IFN-β (TRIF), and Toll-receptor-associated molecule (TRAM) (8-10). This association leads to the recruitment and activation of IRAK1 and IRAK4, which form a complex with TRAF6 to activate TAK1 and IKK (8,11-14). Activation of IKK leads to the degradation of IκB, which normally maintains NF-κB in an inactive state by sequestering it in the cytoplasm.
Background References	<ol style="list-style-type: none"> 1. Akira, S. (2003) <i>J Biol Chem</i> 278, 38105-8. 2. Beutler, B. (2004) <i>Nature</i> 430, 257-63. 3. Dunne, A. and O'Neill, L.A. (2003) <i>Sci STKE</i> 2003, re3. 4. Medzhitov, R. et al. (1997) <i>Nature</i> 388, 394-7. 5. Schwandner, R. et al. (1999) <i>J Biol Chem</i> 274, 17406-9. 6. Takeuchi, O. et al. (1999) <i>Immunity</i> 11, 443-51. 7. Alexopoulou, L. et al. (2001) <i>Nature</i> 413, 732-8. 8. Zhang, F.X. et al. (1999) <i>J Biol Chem</i> 274, 7611-4. 9. Horng, T. et al. (2001) <i>Nat Immunol</i> 2, 835-41. 10. Oshiumi, H. et al. (2003) <i>Nat Immunol</i> 4, 161-7. 11. Muzio, M. et al. (1997) <i>Science</i> 278, 1612-5. 12. Wesche, H. et al. (1997) <i>Immunity</i> 7, 837-47. 13. Suzuki, N. et al. (2002) <i>Nature</i> 416, 750-6. 14. Irie, T. et al. (2000) <i>FEBS Lett</i> 467, 160-4.

Species Reactivity Species reactivity is determined by testing in at least one approved application (e.g., western blot).

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