

#5632
Store at -20°C

Toll-like Receptor 7 (D7) Rabbit mAb



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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H	Endogenous	140	Rabbit IgG	#Q9NYK1	51284

Product Usage Information

Application

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:100

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity / Sensitivity

Toll-like Receptor 7 (D7) Rabbit mAb detects endogenous levels of total human TLR7 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a recombinant protein specific to the leucine-rich repeats within the human TLR7 protein.

Background

Members of the Toll-like receptor (TLR) family, named for the closely related Toll receptor in *Drosophila*, 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- κ B 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 adaptor proteins containing TIR domains, including myeloid differentiation factor 88 (MyD88), MyD88-adaptor-like/TIR-associated protein (MAL/TIRAP), Toll-receptor-associated activator of interferon (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 I κ B, which normally maintains NF- κ B in an inactive state by sequestering it in the cytoplasm.

TLR7, 8 and 9 form a group of structurally related TLR family members that are localized to intracellular endosomes (15-17). TLR7 shows highest expression in lung, placenta, and spleen (15). TLR7 mediates responses to a class of synthetic compounds, including imidazoquinolines, guanosine-based drugs that induce anti-viral responses (18). TLR7 responds to ssRNA viruses to activate NF- κ B and trigger IFN production (19-21).

Background References

1. Akira, S. (2003) *J Biol Chem* 278, 38105-8.
2. Beutler, B. (2004) *Nature* 430, 257-63.
3. Dunne, A. and O'Neill, L.A. (2003) *Sci STKE* 2003, re3.
4. Medzhitov, R. et al. (1997) *Nature* 388, 394-7.
5. Schwandner, R. et al. (1999) *J Biol Chem* 274, 17406-9.
6. Takeuchi, O. et al. (1999) *Immunity* 11, 443-51.
7. Alexopoulou, L. et al. (2001) *Nature* 413, 732-8.
8. Zhang, F.X. et al. (1999) *J Biol Chem* 274, 7611-4.
9. Hornig, T. et al. (2001) *Nat Immunol* 2, 835-41.
10. Oshiumi, H. et al. (2003) *Nat Immunol* 4, 161-7.
11. Muzio, M. et al. (1997) *Science* 278, 1612-5.
12. Wesche, H. et al. (1997) *Immunity* 7, 837-47.
13. Suzuki, N. et al. (2002) *Nature* 416, 750-6.
14. Irie, T. et al. (2000) *FEBS Lett* 467, 160-4.
15. Chuang, T.H. and Ulevitch, R.J. (2000) *Eur Cytokine Netw* 11, 372-8.
16. Du, X. et al. (2000) *Eur Cytokine Netw* 11, 362-71.
17. Heil, F. et al. (2003) *Eur J Immunol* 33, 2987-97.
18. Hemmi, H. et al. (2002) *Nat Immunol* 3, 196-200.
19. Heil, F. et al. (2004) *Science* 303, 1526-9.
20. Diebold, S.S. et al. (2004) *Science* 303, 1529-31.
21. Lund, J.M. et al. (2004) *Proc Natl Acad Sci USA* 101, 5598-603.

Species Reactivity

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

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster **X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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