Toll-like Receptor 4 Antibody (Rodent Specific) (Rodent Specific) (#2219) Datasheet Without Images

**For Research Use Only. Not For Use In Diagnostic Procedures.**

**MW (kDa):** 110  
**Source:** Rabbit  
**UniProt ID:** O00206  
**Entrez-Gene Id:** 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 (Rodent Specific) detects transfected levels of total TLR4 protein. Cross reactivity was not detected with other TLR family members.

**Species predicted to react based on 100% sequence homology:** Rat

**Source / Purification**
Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Cys549 within the extracellular region of mouse and rat TLR4 protein. Antibodies were purified by peptide affinity chromatography.

**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-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 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 B, which normally maintains NF-κB in an inactive state by sequestering it in the cytoplasm.

TLR4 functions in association with MD-2 in the recognition and initiation of immune responses elicited by lipopolysaccharide (LPS) of Gram-negative bacteria (4-8). TLR4 triggers the activation of NF-κB, IRF-3, and MAPK pathways leading to the production of inflammatory cytokines (9).


**Applications Key**
- WB: Western Blot  
- IP: Immunoprecipitation  
- IHC: Immunohistochemistry  
- ChIP: Chromatin Immunoprecipitation  
- IF: Immunofluorescence  
- FC: Flow Cytometry  
- EP: ELISA-Peptide

**Cross Reactivity**
- H: human  
- M: mouse  
- R: rat  
- Hm: hamster  
- Mk: monkey  
- Mm: mink  
- Oc: chicken  
- Dm: D. melanogaster  
- Xo: Xenopus  
- Z: zebrafish  
- B: bovine  
- Dg: dog  
- P: pig  
- Sc: S. cerevisiae  
- Gs: Gallus  
- Hr: horse  
- Av: all species expected

**Important:** For primary antibodies recommended for western blotting applications, we recommend incubating the membrane with diluted antibody at 4°C with gentle shaking overnight. Please refer to the western blot protocol found on the product web page for the antibody-specific diluent recommendation.

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