Toll-like Receptor 4 (D8L5W) Rabbit mAb (Mouse Specific)

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

### Applications:
- WB
- Reactivity: M
- MW (kDa): 100-135
- Source/Iso-type: Rabbit IgG
- UnIProt ID: Q9QUK6
- Entrez-Gene Id: 21898

### Specificity / Sensitivity
- Toll-like Receptor 4 (D8L5W) Rabbit mAb (Mouse Specific) recognizes endogenous levels of total Toll-like receptor 4 protein.

### Species Reactivity:
- Mouse

### Source / Purification
- Monoclonal antibody is produced by immunizing animals with recombinant mouse Toll-like receptor 4 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-kB 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 IκB, which normally maintains NF-kB 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 maintains NF-κB in an inactive state by sequestering it in the cytoplasm.

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- TLR4 triggers the activation of NF-kB, IRF-3, and MAPK pathways leading to the production of inflammatory cytokines (9).

### Species Reactivity:
- Human
- Mouse
- Rat
- Hamster
- Monkey
- Chicken
- Dog
- Pig
- Horse
- All species expected

### Important Notes:
- 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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