

## TLR7

**Reactivity:**Human Mouse Rat

**Tested applications:**WB IHC IF

**Recommended Dilution:**WB 1:500 - 1:2000 IHC 1:50 - 1:200 IF 1:50 - 1:200

**Calculated MW:**121kDa

**Observed MW:**Refer to Figures

**Immunogen:**

Recombinant protein of human TLR7

**Storage Buffer:**

Store at -20. Avoid freeze / thaw cycles. Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH7.3.

**Concentration:**

5

**Synonym:**

TLR7

**Catalog #:**A0991

**Antibody Type:**

Polyclonal Antibody

**Species:**Rabbit

**Gene ID:**51284

**Isotype:**IgG

**Swiss Prot:**Q9NYK1

**Purity:**Affinity purification

For research use only.

**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 (1-3). TLRs recognize conserved motifs found in various pathogens and mediate defense responses. Triggering of the TLR pathway leads to the activation of NF- $\kappa$ B and subsequent regulation of immune and inflammatory genes. The TLRs and members of the IL-1 receptor family share a conserved stretch of approximately 200 amino acids known as the TIR domain. Upon activation, TLRs associate with a number of cytoplasmic adaptor proteins containing TIR domains including MyD88 (myeloid differentiation factor), MAL/TIRAP (MyD88-adaptor-like/TIR-associated protein), TRIF (Toll-receptor-associated activator of interferon), and TRAM (Toll-receptor-associated molecule). This association leads to the recruitment and activation of IRAK1 and IRAK4, which form a complex with TRAF6 to activate TAK1 and IKK. Activation of IKK leads to the degradation of I $\kappa$ B that normally maintains NF- $\kappa$ B inactivity 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 (4-6). TLR7 shows highest expression in lung, placenta, and spleen (4). TLR7 mediates responses to a class of synthetic compounds, including imidazoquinolines, guanosine-based drugs that induce anti-viral responses (7). Naturally, TLR7 responds to ssRNA viruses to activate NF- $\kappa$ B and trigger IFN production (8-10).

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