

TLR4 (25): sc-293072

BACKGROUND

Six human homologs of the *Drosophila* Toll receptor were initially identified based on their sequence similarities and designated Toll-like receptors (TLR). Toll receptors are involved in mediating dorsoventral polarization in the developing *Drosophila* embryo and also participate in the host immunity. The TLR family of proteins are characterized by a highly conserved Toll homology (TH) domain, which is essential for Toll-induced signal transduction. TLR1, as well as the other TLR family members, are type I transmembrane receptors that characteristically contain an extracellular domain consisting of several leucine-rich regions along with a single cytoplasmic Toll/IL-1R-like domain. TLR2 and TLR4 are activated in response to lipopolysaccharide (LPS) stimulation, which results in the activation and translocation of NF κ B and suggests that these receptors are involved in mediating inflammatory responses. Expression of TLR receptors is highest in peripheral blood leukocytes, macrophages, and monocytes. TLR6 is highly homologous to TLR1, sharing greater than 65% sequence identity and, like other members of TLR family, it induces NF κ B signaling upon activation.

CHROMOSOMAL LOCATION

Genetic locus: TLR4 (human) mapping to 9q33.1; Tlr4 (mouse) mapping to 4 C1.

SOURCE

TLR4 (25) is a mouse monoclonal antibody raised against amino acids 198-395 of TLR4 of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TLR4 (25) is available conjugated to agarose (sc-293072 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; and to HRP (sc-293072 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA.

APPLICATIONS

TLR4 (25) is recommended for detection of TLR4 of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for TLR4 siRNA (h): sc-40260, TLR4 siRNA (m): sc-40261, TLR4 siRNA (r): sc-156001, TLR4 shRNA Plasmid (h): sc-40260-SH, TLR4 shRNA Plasmid (m): sc-40261-SH, TLR4 shRNA Plasmid (r): sc-156001-SH, TLR4 shRNA (h) Lentiviral Particles: sc-40260-V, TLR4 shRNA (m) Lentiviral Particles: sc-40261-V and TLR4 shRNA (r) Lentiviral Particles: sc-156001-V.

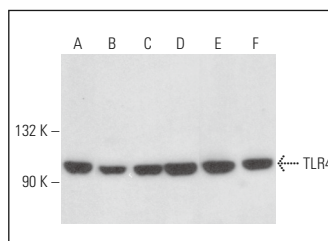
Molecular Weight of glycosylated TLR4: 95/120 kDa.

Positive Controls: PANC-1 whole cell lysate: sc-364380, WEHI-231 whole cell lysate: sc-2213 or SP2/0 whole cell lysate: sc-364795.

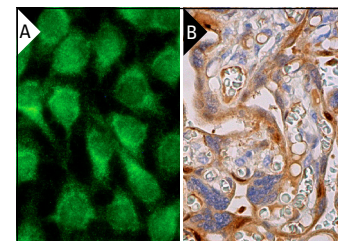
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



TLR4 (25): sc-293072. Western blot analysis of TLR4 expression in PANC-1 (A), SK-N-MC (B), EOC 20 (C), WEHI-231 (D), SP2/0 (E) and LADMAC (F) whole cell lysates.



TLR4 (25): sc-293072. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic and nuclear staining of trophoblastic cells (B).

SELECT PRODUCT CITATIONS

- Benabid, R., et al. 2012. Neutrophil elastase modulates cytokine expression: contribution to host defense against *Pseudomonas aeruginosa*-induced pneumonia. *J. Biol. Chem.* 287: 34883-34894.
- Zhao, H., et al. 2016. Betulin attenuates kidney injury in septic rats through inhibiting TLR4/NF κ B signaling pathway. *Life Sci.* 144: 185-193.
- Ding, T., et al. 2017. High glucose induces mouse mesangial cell overproliferation via inhibition of hydrogen sulfide synthesis in a TLR-4-dependent manner. *Cell. Physiol. Biochem.* 41: 1035-1043.
- Xu, J., et al. 2018. Protective effects of oxymatrine against lipopolysaccharide/D-galactosamine-induced acute liver failure through oxidative damage, via activation of Nrf2/HO-1 and modulation of inflammatory TLR4-signaling pathways. *Mol. Med. Rep.* 17: 1907-1912.
- Kinoshita, D., et al. 2019. Syntaxin 11 regulates the stimulus-dependent transport of Toll-like receptor 4 to the plasma membrane by cooperating with SNAP-23 in macrophages. *Mol. Biol. Cell* 30: 1085-1097.
- Fu, X.Q., et al. 2020. Activation of STAT3 is a key event in TLR4 signaling-mediated melanoma progression. *Cell Death Dis.* 11: 246.
- Jiang, Z., et al. 2021. Mesenchymal stem cell-derived exosomes containing miR-145-5p reduce inflammation in spinal cord injury by regulating the TLR4/NF κ B signaling pathway. *Cell Cycle* 20: 993-1009.
- Chen, J., et al. 2022. Cordycepin alleviated metabolic inflammation in Western diet-fed mice by targeting intestinal barrier integrity and intestinal flora. *Pharmacol. Res.* 178: 106191.
- Tiskratok, W., et al. 2023. Substrate stiffness controls proinflammatory responses in human gingival fibroblasts. *Sci. Rep.* 13: 1358.

RESEARCH USE

For research use only, not for use in diagnostic procedures. Not for resale.