

TLR3 (M-300): sc-28999

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. Expression of TLR receptors is highest in peripheral blood leukocytes, macrophages and monocytes. 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 NFκB and suggests that these receptors are involved in mediating inflammatory responses. TLR3 is highly expressed in placenta and pancreas, and is limited to the dendritic subpopulation of leukocytes. TLR3 recognizes dsRNA associated with viral infection and induces activation of NFκB and production of type I interferons, which suggests that it may play a role in host defense against viruses. TLR6 is highly homologous to TLR1, sharing greater than 65% sequence identity. Like other members of TLR family, TLR6 induces NFκB signaling upon activation.

REFERENCES

- Muzio, M., et al. 2000. Differential expression and regulation of toll-like receptors (TLR) in human leukocytes: selective expression of TLR3 in dendritic cells. *Mol. Biol.* 11: 5998-6004.
- Tissari, J., et al. 2005. IFN-α enhances TLR3-mediated antiviral cytokine expression in human endothelial and epithelial cells by upregulating TLR3 expression. *J. Immunol.* 174: 4289-4294.
- Schröder, M. and Bowie, A.G. 2005. TLR3 in antiviral immunity: key player or bystander? *Trends Immunol.* 26: 462-468.
- Wang, J., et al. 2005. TLR3 ligand-induced accumulation of activated splenic natural killer cells into liver. *Cell. Mol. Immunol.* 2: 449-453.
- Kulka, M. and Metcalfe, D.D. 2006. TLR3 activation inhibits human mast cell attachment to Fibronectin and Vitronectin. *Mol. Immunol.* 43: 1579-1586.
- Town, T., et al. 2006. Microglia recognize double-stranded RNA via TLR3. *J. Immunol.* 176: 3804-3812.

CHROMOSOMAL LOCATION

Genetic locus: TLR3 (human) mapping to 4q35; Tlr3 (mouse) mapping to 8 B2.

SOURCE

TLR3 (M-300) is a rabbit polyclonal antibody raised against amino acids 26-325 mapping within an N-terminal extracellular domain of TLR3 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

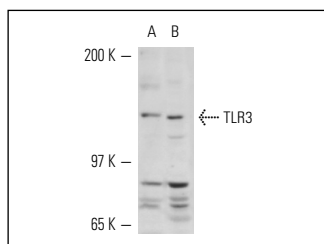
TLR3 (M-300) is recommended for detection of TLR3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TLR3 siRNA (h): sc-36685, TLR3 siRNA (m): sc-40259, TLR3 shRNA Plasmid (h): sc-36685-SH, TLR3 shRNA Plasmid (m): sc-40259-SH, TLR3 shRNA (h) Lentiviral Particles: sc-36685-V and TLR3 shRNA (m) Lentiviral Particles: sc-40259-V.

Molecular Weight of TLR3: 117 kDa.

Positive Controls: COLO 320DM cell lysate: sc-2226, HeLa whole cell lysate: sc-2200 or human PBL whole cell lysate.

DATA



TLR3 (M-300): sc-28999. Western blot analysis of TLR3 expression in HeLa (A) and human PBL (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Larouche, A., et al. 2008. Subacute H₂O₂, but not poly(IC), upregulates dopamine D2 receptors in retinoic acid differentiated SH-SY5Y neuroblastoma. *Synapse* 62: 70-73.
- Knödler, A., et al. 2009. Post-transcriptional regulation of adapter molecules by IL-10 inhibits TLR-mediated activation of antigen-presenting cells. *Leukemia* 23: 535-544.
- Ma, P., et al. 2009. Human corneal epithelium-derived thymic stromal lymphopoietin: a potential link between the innate and adaptive immune responses via toll-like receptors and Th2 cytokines. *Invest. Ophthalmol. Vis. Sci.* 50: 2702-2709.
- Ma, P., et al. 2010. Toll-like receptors mediate induction of peptidoglycan recognition proteins in human corneal epithelial cells. *Exp. Eye Res.* 90: 130-136.

STORAGE

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

RESEARCH USE

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