

TLR4 (76B357.1): sc-52962

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 (76B357.1) is a mouse monoclonal antibody raised against a synthetic TLR4 peptide of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TLR4 (76B357.1) is recommended for detection of TLR4 of mouse, rat and human 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)] and flow cytometry (1 μ g per 1 x 10⁶ cells).

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

Molecular Weight of glycosylated TLR4: 95/120 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, AML-193 whole cell lysate: sc-364182 or JAR cell lysate: sc-2276.

STORAGE

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

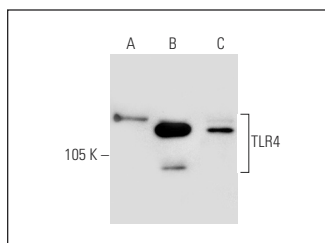
PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

RESEARCH USE

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

DATA



TLR4 (76B357.1): sc-52962. Western blot analysis of TLR4 expression in AML-193 (A), CCRF-CEM (B) and JAR (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Mbdji, K., et al. 2011. Alanyl-glutamine restores maternal deprivation-induced TLR4 levels in a rat neonatal model. *Clin. Nutr.* 30: 672-677.
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- Yang, W.S., et al. 2016. TNF- α activates high-mobility group box 1-Toll-like receptor 4 signaling pathway in human aortic endothelial cells. *Cell. Physiol. Biochem.* 38: 2139-2151.
- Subramanian, S., et al. 2017. Significant association of TREM-1 with HMGB1, TLRs and RAGE in the pathogenesis of Insulin resistance in obese diabetic populations. *Am. J. Transl. Res.* 9: 3224-3244.
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- Wang, T., et al. 2018. Pro-atherogenic activation of A7r5 cells induced by the oxLDL/ β ₂GPI/anti- β ₂GPI complex. *Int. J. Mol. Med.* 42: 1955-1966.
- Li, Q., et al. 2019. Carnosic acid protects against lipopolysaccharide-induced acute lung injury in mice. *Exp. Ther. Med.* 18: 3707-3714.
- Lu, Y., et al. 2020. PFKFB3, a key glucose metabolic enzyme regulated by pathogen recognition receptor TLR4 in liver cells. *Ther. Adv. Endocrinol. Metab.* 11: 2042018820923474.
- Zhang, G., et al. 2021. OxLDL/ β ₂GPI/anti- β ₂GPI Ab complex induces inflammatory activation via the TLR4/NF κ B pathway in HUVECs. *Mol. Med. Rep.* 23: 148.

CONJUGATES

See **TLR4 (25): sc-293072** for TLR4 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.