SANTA CRUZ BIOTECHNOLOGY, INC.

TLR1 (GD2): sc-47709

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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, is a type I transmembrane receptor that characteristically contains an extracellular domain consisting of several leucine-rich regions along with a single cytoplasmic TolI/IL-1R-like domain. TLR2 and TLR4 are activated in response to lipopolysacchride (LPS) stimulation, which results in the activation and translocation of NFκB 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 NFκB signaling upon activation.

REFERENCES

1. Gay, N.J., et al. 1991. *Drosophila* Toll and IL-1 receptor. Nature 351: 355-356.
2. Medzhitov, R., et al. 1997. A human homologue of the *Drosophila* Toll protein signals activation of adaptive immunity. Nature 388: 394-397.
3. Rock, F.L., et al. 1998. A family of human receptors structurally related to *Drosophila* Toll. Proc. Natl. Acad. Sci. USA 95: 588-593.
4. Yang, R.B., et al. 1998. Toll-like receptor-2 mediates lipopolysaccharide-induced cellular signalling. Nature 395: 284-288.
5. Brightbill, H.D., et al. 1999. Host defense mechanisms triggered by microbial lipoproteins through Toll-like receptors. Science 285: 732-736.
6. Chow, J.C., et al. 1999. Toll-like receptor-4 mediates lipopolysaccharide-induced signal transduction. J. Biol. Chem. 274: 10689-10692.
7. Schwandner, R., et al. 1999. Peptidoglycan- and lipoteichoic acid-induced cell activation is mediated by Toll-like receptor 2. J. Biol. Chem. 274: 17406-17409.
8. Takeuchi, O., et al. 1999. TLR6: a novel member of an expanding Toll-like receptor family. Gene 231: 59-65.

CHROMOSOMAL LOCATION

Genetic locus: TLR1 (human) mapping to 4p14.

SOURCE

TLR1 (GD2) is a mouse monoclonal antibody raised against recombinant soluble TLR1 extracellular domain (TLR1-Fc) of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TLR1 (GD2) is available conjugated to either phycoerythrin (sc-47709 PE) or fluorescein (sc-47709 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

TLR1 (GD2) is recommended for detection of TLR1 of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

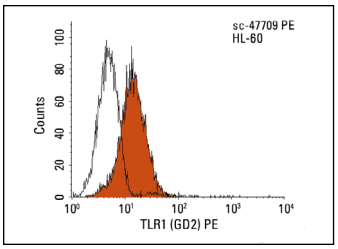
Suitable for use as control antibody for TLR1 siRNA (h): sc-40254, TLR1 shRNA Plasmid (h): sc-40254-SH and TLR1 shRNA (h) Lentiviral Particles: sc-40254-V.

Molecular Weight of TLR1: 90 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



TLR1 (GD2) PE: sc-47709 PE. FCM analysis of HL-60 cells. Black line histogram represents the isotype control, normal mouse IgG_1-PE: sc-2866.

SELECT PRODUCT CITATIONS

1. Rajalakshmy, A.R., et al. 2014. HCV core and NS3 proteins mediate Toll like receptor induced innate immune response in corneal epithelium. Exp. Eye Res. 128: 117-128.
2. Qiu, C., et al. 2022. Improving the *ex vivo* expansion of human tumor-reactive $CD8^+$ T cells by targeting Toll-like receptors. Front. Bioeng. Biotechnol. 10: 1027619.

RESEARCH USE

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

PROTOCOLS

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