SANTA CRUZ BIOTECHNOLOGY, INC.

TLR2 (TL2.3): sc-21760

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, are type I transmembrane receptors that characteristically contain an extracellular domain that consists of several leucine-rich regions along with a single cytoplasmic Toll/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 the TLR family, it induces NFκB signaling upon activation.

CHROMOSOMAL LOCATION

Genetic locus: TLR2 (human) mapping to 4q31.3.

SOURCE

TLR2 (TL2.3) is a mouse monoclonal antibody raised against CHO-TLR2 cells of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TLR2 (TL2.3) is available conjugated to either phycoerythrin (sc-21760 PE) or fluorescein (sc-21760 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

STORAGE

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

APPLICATIONS

TLR2 (TL2.3) is recommended for detection of TLR2 of 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 flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for TLR2 siRNA (h): sc-40256, TLR2 shRNA Plasmid (h): sc-40256-SH and TLR2 shRNA (h) Lentiviral Particles: sc-40256-V.

Molecular Weight of TLR2: 90-100 kDa.

Positive Controls: Caco-2 cell lysate: sc-2262, Ramos cell lysate: sc-2216 or A549 cell lysate: sc-2413.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

SELECT PRODUCT CITATIONS

1. Porter, M., et al. 2007. Diesel-enriched particulate matter functionally activates human dendritic cells. Am. J. Respir Cell. Mol. Biol. 37: 706-19.
2. Rojo-Botello, N.R., et al. 2012. Expression of Toll-like receptors 2, 4 and 9 is increased in gingival tissue from patients with type 2 diabetes and chronic periodontitis. J. Periodont. Res. 47: 62-73.
3. Park, E., et al. 2014. Activation of NLRP3 and AIM2 inflammasomes by *Porphyromonas gingivalis* infection. Infect. Immun. 82: 112-123.
4. Dai, J.P., et al. 2017. Emodin inhibition of influenza A virus replication and influenza viral pneumonia via the Nrf2, TLR4, p38/JNK and NFκB pathways. Molecules 22: 1754.
5. Wang, Q.W., et al. 2018. Anti-Influenza A Virus activity of rhein through regulating oxidative stress, TLR4, Akt, MAPK, and NFκB signal pathways. PLoS ONE 13: e0191793.
6. Munoz, M.D., et al. 2019. The nitrone spin trap 5,5-dimethyl-1-pyrroline N-oxide binds to Toll-like receptor-2-TIR-BB-loop domain and dampens downstream inflammatory signaling. Biochim. Biophys. Acta Mol. Basis Dis. 1865: 1152-1159.
7. Satish, M., et al. 2020. Vitamin D attenuates HMGB1-mediated neointimal hyperplasia after percutaneous coronary intervention in swine. Mol. Cell. Biochem. 474: 219-228.
8. Syeda, T., et al. 2021. Bioactive foods decrease liver and brain alterations induced by a high-fat-sucrose diet through restoration of gut microbiota and antioxidant enzymes. Nutrients 14: 22.
9. Manea, S.A., et al. 2022. Pharmacological inhibition of lysine-specific demethylase 1A reduces atherosclerotic lesion formation in apolipoprotein E-deficient mice by a mechanism involving decreased oxidative stress and inflammation; potential implications in human atherosclerosis. Antioxidants 11: 2382.
10. Sun, S.Y., et al. 2023. Electroacupuncture alleviates pain responses and inflammation in collagen-induced arthritis rats via suppressing the TLR2/4-MyD88-NF-κB signaling pathway. Evid. Based Complement. Alternat. Med. 2023: 9050763.

RESEARCH USE

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