SANTA CRUZ BIOTECHNOLOGY, INC.

TLR4 (HTA125): sc-13593

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 consisting 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 TLR family, it induces NFκB signaling upon activation.

CHROMOSOMAL LOCATION

Genetic locus: TLR4 (human) mapping to 9q33.1, LY96 (human) mapping to 8q21.11.

SOURCE

TLR4 (HTA125) is a mouse monoclonal antibody raised against Toll-like receptor 4 (TLR4) 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. Also available azide-free for biological studies, sc-13593 L, 200 µg/0.1 ml.

TLR4 (HTA125) is available conjugated to agarose (sc-13593 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-13593 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-13593 PE), fluorescein (sc-13593 FITC), Alexa Fluor® 488 (sc-13593 AF488), Alexa Fluor® 546 (sc-13593 AF546), Alexa Fluor® 594 (sc-13593 AF594) or Alexa Fluor® 647 (sc-13593 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-13593 AF680) or Alexa Fluor® 790 (sc-13593 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

TLR4 (HTA125) is recommended for detection of TLR4/MD-2 complex of human origin by 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Molecular Weight of glycosylated TLR4: 95/120 kDa.

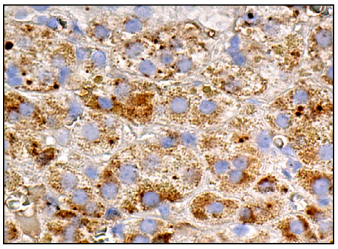
STORAGE

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

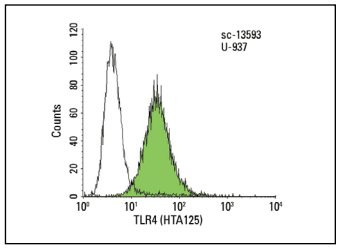
RESEARCH USE

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

DATA



TLR4 (HTA125): sc-13593. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells.



TLR4 (HTA125): sc-13593. Indirect FCM analysis of U937 cells stained with biotin-conjugated TLR4 (HTA125), followed by Avidin-FITC: sc-2865. Black line histogram represents the isotype control, normal mouse IgG: sc-2762.

SELECT PRODUCT CITATIONS

1. Bosisio, D., et al. 2002. Stimulation of Toll-like receptor 4 expression in human mononuclear phagocytes by interferon-γ: a molecular basis for priming and synergism with bacterial lipopolysaccharide. Blood 99: 3427-3431.
2. Cao, J.S., et al. 2015. *Bifidobacterium* influences the expression of TLR2 and TLR4 on the intestinal tissue of experimental terminal ileitis and its intervention mechanism. Chin. J. Gastroenterol. 27: 239.
3. Di Maggio, S., et al. 2017. Non-oxidizable HMGB1 induces cardiac fibroblasts migration via CXCR4 in a CXCL12-independent manner and worsens tissue remodeling after myocardial infarction. Biochim. Biophys. Acta 1863: 2693-2704.
4. Domínguez-Soto, Á., et al. 2018. IVIg promote cross-tolerance against inflammatory stimuli *in vitro* and *in vivo*. J. Immunol. 201: 41-52.
5. Wang, Y., et al. 2019. miR-27a suppresses TLR4-induced renal ischemia-reperfusion injury. Mol. Med. Rep. 20: 967-976.
6. Yao, Q., et al. 2020. TLR4 stimulation promotes human AVIC fibrogenic activity through upregulation of neurotrophin 3 production. Int. J. Mol. Sci. 21: 1276.
7. Mo, Y., et al. 2021. Imaging and analysis on the interaction between human antigen-pulsed Vδ2 T cells and antigen-specific CD4 T cells. STAR Protoc. 2: 100453.
8. Lin, L., et al. 2022. Mechanism analysis of octapeptide from microalgae, *Isochrysis zhanjiangensis* for suppressing vascular injury and angiogenesis in human umbilical vein endothelial cell. Int. Immunopharmacol. 111: 109149.

PROTOCOLS

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