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.

In addition, TLR4 (HTA125) is available conjugated to either PerCP (sc-13593 PerCP), PerCP-Cy5.5 (sc-13593 PCPC5) or Alexa Fluor® 405 (sc-13593 AF405), 100 tests in 2 ml, for IF, IHC(P) and FCM.

APPLICATIONS

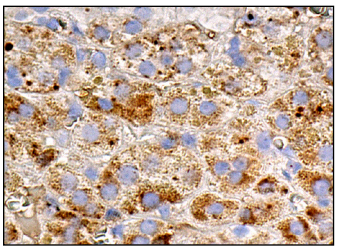
TLR4 (HTA125) is recommended for detection of TLR4/MD-2 complex of human origin by immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting 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.

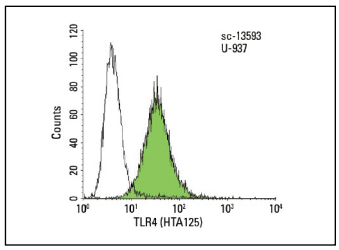
STORAGE

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

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. Finlay, T.M., et al. 2010. Thymoquinone-induced Neu4 sialidase activates NFκB in macrophage cells and pro-inflammatory cytokines *in vivo*. Glycoconj. J. 27: 583-600.
3. Chávez-Sánchez, L., et al. 2010. Activation of TLR2 and TLR4 by minimally modified low-density lipoprotein in human macrophages and monocytes triggers the inflammatory response. Hum. Immunol. 71: 737-744.
4. Rizzo, A., et al. 2013. *Lactobacillus plantarum* reduces *Streptococcus pyogenes* virulence by modulating the IL-17, IL-23 and Toll-like receptor 2/4 expressions in human epithelial cells. Int. Immunopharmacol. 17: 453-461.
5. Zhang, G., et al. 2013. Contributors to HMGB1 release by urothelial carcinoma cells in response to bacillus Calmette-Guerin. J. Urol. 190: 1398-1403.
6. Rojas-Bernabé, A., et al. 2014. *Leishmania mexicana* lipophosphoglycan activates ERK and p38 MAP kinase and induces production of proinflammatory cytokines in human macrophages through TLR2 and TLR4. Parasitology 141: 788-800.
7. Chávez-Sánchez, L., et al. 2014. The role of TLR2, TLR4 and CD36 in macrophage activation and foam cell formation in response to oxLDL in humans. Hum. Immunol. 75: 322-329.
8. 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.

RESEARCH USE

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