SANTA CRUZ BIOTECHNOLOGY, INC.

TLR3 (TLR3.7): sc-32232

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. Expression of TLR receptors is highest in peripheral blood leukocytes, macrophages and monocytes. 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. TLR3 is highly expressed in placenta and pancreas, and is limited to the dendritic subpopulation of leukocytes. TLR3 recognizes dsRNA associated with viral infection and induces activation of NFκB and production of type I interferons, which suggests that it may play a role in host defense against viruses. TLR6 is highly homologous to TLR1, sharing greater than 65% sequence identity. Like other members of TLR family, TLR6 induces NFκB signaling upon activation.

CHROMOSOMAL LOCATION

Genetic locus: TLR3 (human) mapping to 4q35.1.

SOURCE

TLR3 (TLR3.7) is a mouse monoclonal antibody raised against full length TLR3 of human origin.

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.

TLR3 (TLR3.7) is available conjugated to agarose (sc-32232 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-32232 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-32232 PE), fluorescein (sc-32232 FITC), Alexa Fluor® 488 (sc-32232 AF488), Alexa Fluor® 546 (sc-32232 AF546), Alexa Fluor® 594 (sc-32232 AF594) or Alexa Fluor® 647 (sc-32232 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-32232 AF680) or Alexa Fluor® 790 (sc-32232 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

TLR3 (TLR3.7) is recommended for detection of TLR3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TLR3 siRNA (h): sc-36685, TLR3 shRNA Plasmid (h): sc-36685-SH and TLR3 shRNA (h) Lentiviral Particles: sc-36685-V.

Molecular Weight of TLR3: 117 kDa.

STORAGE

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

SELECT PRODUCT CITATIONS

1. Nasu, K., et al. 2007. Human oviductal epithelial cells express Toll-like receptor 3 and respond to double-stranded RNA: fallopian tube-specific mucosal immunity against viral infection. Hum. Reprod. 22: 356-361.

2. González-Reyes, S., et al. 2010. Study of TLR3, TLR4 and TLR9 in breast carcinomas and their association with metastasis. BMC Cancer 10: 665.

3. González-Reyes, S., et al. 2011. Study of TLR3, TLR4, and TLR9 in prostate carcinomas and their association with biochemical recurrence. Cancer Immunol. Immunother. 60: 217-226.

4. 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. Periodontal Res. 47: 62-73.

5. Eiró, N., et al. 2013. Expression of TLR3, 4, 7 and 9 in cutaneous malignant melanoma: relationship with clinicopathological characteristics and prognosis. Arch. Dermatol. Res. 305: 59-67.

6. Eiró, N., et al. 2013. Toll-like receptor-4 expression by stromal fibroblasts is associated with poor prognosis in colorectal cancer. J. Immunother. 36: 342-349.

7. Weiss, R., et al. 2013. IL-24 sensitizes tumor cells to TLR3-mediated apoptosis. Cell Death Differ. 20: 823-833.

8. Eiró, N., et al. 2014. Toll-like receptors 3, 4 and 9 in hepatocellular carcinoma: relationship with clinicopathological characteristics and prognosis. Hepatol. Res. 44: 769-778.

9. Aggarwal, R., et al. 2015. Characterization of Toll-like receptor transcriptome in squamous cell carcinoma of cervix: a case-control study. Gynecol. Oncol. 138: 358-362.

10. Jorgensen, M.M., et al. 2015. Potentials and capabilities of the extracellular vesicle (EV) array. J. Extracell. Vesicles 4: 26048.

11. Fan, Y. and Liu, B. 2015. Expression of Toll-like receptors in the mucosa of patients with ulcerative colitis. Exp. Ther. Med. 9: 1455-1459.

12. Leonardi, R., et al. 2015. Differential expression of TLR3 and TLR4 in keratocystic odontogenic tumor (KCOT): a comparative immunohistochemical study in primary, recurrent, and nevoid basal cell carcinoma syndrome (NBCCS)—associated lesions. J. Craniomaxillofac. Surg. 43: 733-737.

13. He, M., et al. 2016. The ORF3 protein of genotype 1 hepatitis E virus suppresses TLR3-induced NFκB signaling via TRADD and RIP1. Sci. Rep. 6: 27597.

RESEARCH USE

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

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