SANTA CRUZ BIOTECHNOLOGY, INC.

TLR9 (5G5): sc-47723

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Toll-like receptors (TLR) are a family of human receptors that share homology with the *Drosophila* Toll receptors, which are involved in mediating dorsoventral polarization in developing *Drosophila* embryos and participate in host immunity. The TLR family members are characterized by a highly conserved Toll homology (TH) domain, which is essential for Toll-induced signal transductions. TLRs are type I transmembrane receptors that contain an extracellular domain consisting of several leucine-rich regions and a single cytoplasmic Toll/IL-1R like domain. Three TLR family members, TLR7, TLR8 and TLR9, belong to a subfamily of TLRs which are differentially expressed. TLR7 is expressed in lung, placenta and spleen. TLR8 is expressed in lung and peripheral blood leukocytes, and TLR9 is predominantly expressed in spleen, lymph nodes, bone marrow and peripheral blood leukocytes. TLR7, TLR8 and TLR9 stimulate the NFκB signaling pathway, suggesting that they play a role in the immune response.

CHROMOSOMAL LOCATION

Genetic locus: TLR9 (human) mapping to 3p21.2; Tlr9 (mouse) mapping to 9 F1.

SOURCE

TLR9 (5G5) is a mouse monoclonal antibody raised against a fusion protein consisting of the extracellular portion of TLR9 (residues 1-815) of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TLR9 (5G5) is recommended for detection of TLR9 of mouse, rat and 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), 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).

TLR9 (5G5) is also recommended for detection of TLR9 in additional species, including canine.

Suitable for use as control antibody for TLR9 siRNA (h): sc-40270, TLR9 siRNA (m): sc-40271, TLR9 shRNA Plasmid (h): sc-40270-SH, TLR9 shRNA Plasmid (m): sc-40271-SH, TLR9 shRNA (h) Lentiviral Particles: sc-40270-V and TLR9 shRNA (m) Lentiviral Particles: sc-40271-V.

Molecular Weight of TLR9: 113 kDa.

Molecular Weight of glycosylated TLR9: 160 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or RAW 309 Cr.1 cell lysate: sc-3814.

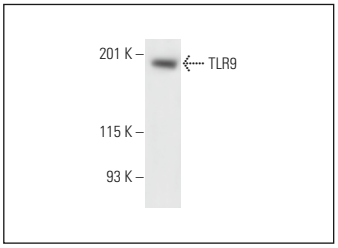
RESEARCH USE

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

STORAGE

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

DATA



TLR9 (5G5): sc-47723. Western blot analysis of TLR9 expression in RAW 309 Cr.1 whole cell lysate.

SELECT PRODUCT CITATIONS

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3. Shi, Z., et al. 2012. CpG-DNA loaded multifunctional MnO nanoshuttles for TLR9-specific cellular cargo delivery, selective immune-activation and MRI. J. Mater. Chem. 22: 8826-8834.
4. Panchanathan, R., et al. 2013. Expression of murine Unc93b1 is up-regulated by interferon and estrogen signaling: implications for sex bias in the development of autoimmunity. Int. Immunol. 25: 521-529.
5. Saito, K., et al. 2015. Heat shock protein 90 associates with Toll-like receptors 7/9 and mediates self-nucleic acid recognition in SLE. Eur. J. Immunol. 45: 2028-2041.
6. Hiraku, Y., et al. 2016. Multi-walled carbon nanotube induces nitrative DNA damage in human lung epithelial cells via HMGB1-RAGE interaction and Toll-like receptor 9 activation. Part. Fibre Toxicol. 13: 16.
7. 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.
8. Dai, J., et al. 2018. Inhibition of curcumin on influenza A virus infection and influenzal pneumonia via oxidative stress, TLR2/4, p38/JNK MAPK and NFκB pathways. Int. Immunopharmacol. 54: 177-187.
9. Shimizu, K., et al. 2019. Granzyme A stimulates pDCs to promote adaptive immunity via induction of type I IFN. Front. Immunol. 10: 1450.
10. Wang, C.Y., et al. 2020. TLR9 binding to Beclin 1 and mitochondrial SIRT3 by a sodium-glucose co-transporter 2 inhibitor protects the heart from doxorubicin toxicity. Biology 9: 369.

PROTOCOLS

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