

TLR7 (N-20): sc-13207

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 NF κ B signaling pathway, suggesting that they play a role in the immune response.

REFERENCES

1. Gay, N.J. and Keith, F.J. 1991. *Drosophila* toll and IL-1 receptor. Nature 351: 355-356.
2. Rock, F.L., et al. 1998. A family of human receptors structurally related to *Drosophila* toll. Proc. Natl. Acad. Sci. USA 95: 588-593.

CHROMOSOMAL LOCATION

Genetic locus: TLR7 (human) mapping to Xp22.2; Tlr7 (mouse) mapping to X F5.

SOURCE

TLR7 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of TLR7 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-13207 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TLR7 (N-20) is recommended for detection of TLR7 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). TLR7 (N-20) is also recommended for detection of TLR7 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for TLR7 siRNA (h): sc-40266, TLR7 siRNA (m): sc-40267, TLR7 shRNA Plasmid (h): sc-40266-SH, TLR7 shRNA Plasmid (m): sc-40267-SH, TLR7 shRNA (h) Lentiviral Particles: sc-40266-V and TLR7 shRNA (m) Lentiviral Particles: sc-40267-V.

Molecular Weight of TLR7: 121 kDa.

Positive Controls: Ramos cell lysate: sc-2216.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Aflatoonian, R., et al. 2007. Menstrual cycle-dependent changes of toll-like receptors in endometrium. Hum. Reprod. 22: 586-593.
2. Ciferska, H., et al. 2008. Expression of nucleic acid binding toll-like receptors in control, lupus and transplanted kidney—a preliminary pilot study. Lupus 17: 580-585.
3. Aboussahoud, W., et al. 2010. Expression and function of Toll-like receptors in human endometrial epithelial cell lines. J. Reprod. Immunol. 84: 41-51.
4. Chamberlain, N.D., et al. 2013. Ligation of TLR7 by rheumatoid arthritis synovial fluid single strand RNA induces transcription of TNF α in monocytes. Ann. Rheum. Dis. 72: 418-426.
5. Chen, G.Y., et al. 2014. Broad and direct interaction between TLR and Siglec families of pattern recognition receptors and its regulation by Neu1. Elife 3: e04066.
6. Kim, S.J., et al. 2015. Identification of a novel TLR7 endogenous ligand in RA synovial fluid that can provoke arthritic joint inflammation. Arthritis Rheumatol. E-published.

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.

PROTOCOLS

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



Try **TLR7 (4F4): sc-57463**, our highly recommended monoclonal alternative to TLR7 (N-20).