SANTA CRUZ BIOTECHNOLOGY, INC.

TLR3 (Q-18): sc-12509

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; Tlr3 (mouse) mapping to 8 B1.1.

SOURCE

TLR3 (Q-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of TLR3 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-12509 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TLR3 (Q-18) is recommended for detection of TLR3 of human and, to a lesser extent, mouse and rat 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TLR3 (Q-18) is also recommended for detection of TLR3 in additional species, including canine, bovine and porcine.

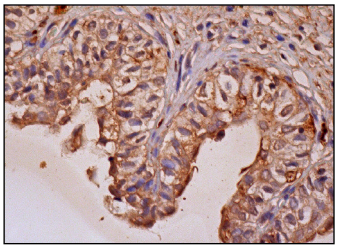
Suitable for use as control antibody for TLR3 siRNA (h): sc-36685, TLR3 siRNA (m): sc-40259, TLR3 shRNA Plasmid (h): sc-36685-SH, TLR3 shRNA Plasmid (m): sc-40259-SH, TLR3 shRNA (h) Lentiviral Particles: sc-36685-V and TLR3 shRNA (m) Lentiviral Particles: sc-40259-V.

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.

DATA



TLR3 (Q-18): sc-12509. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing membrane and cytoplasmic staining of urothelial cells.

SELECT PRODUCT CITATIONS

1. Kulka, M., et al. 2004. Activation of mast cells by double-stranded RNA: evidence for activation through toll-like receptor 3. J. Allergy Clin. Immunol. 114: 174-182.
2. Mozer-Lisewska, I., et al. 2005. Tissue localization of toll-like receptors in biopsy specimens of liver from children infected with hepatitis C virus. Scand. J. Immunol. 62: 407-412.
3. Fukushima, N., et al. 2005. Gene expression alterations in the non-neoplastic parenchyma adjacent to infiltrating pancreatic ductal adenocarcinoma. Mod. Pathol. 18: 779-787.
4. Szczepanski, M., et al. 2006. Toll-like receptors 2, 3 and 4 (TLR2, TLR3 and TLR4) are expressed in the microenvironment of human acquired cholesteatoma. Eur. Arch. Otorhinolaryngol. 263: 603-607.
5. Szebeni, B., et al. 2007. Increased mucosal expression of toll-like receptor TLR2 and TLR4 in coeliac disease. J. Pediatr. Gastroenterol. Nutr. 45: 187-193.
6. Szczepanski, M., et al. 2007. Assessment of expression of Toll-like receptors 2, 3 and 4 in laryngeal carcinoma. Eur. Arch. Otohinolaryngol. 264: 525-530.
7. Lu, J., et al. 2008. Involvement of glyceraldehyde-3-phosphate dehydrogenase in the X-Ray resistance of HeLa cells. Biosci. Biotechnol. Biochem. 72: 2432-2435.
8. Szebeni, B., et al. 2008. Increased expression of Toll-like receptor (TLR) 2 and TLR4 in the colonic mucosa of children with inflammatory bowel disease. Clin. Exp. Immunol. 151: 34-41.
9. Kalali, B.N., et al. 2008. Double-stranded RNA induces an antiviral defense status in epidermal keratinocytes through TLR3-, PKR-, and MDA5/RIG-I-mediated differential signaling. J. Immunol. 181: 2694-2704.

RESEARCH USE

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