

## TLR5 (N-15): sc-8695

### 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 lipopolysaccharide (LPS) stimulation, which results in the activation and translocation of NF $\kappa$ B and suggests that these receptors are involved in mediating inflammatory responses. TLR5 specifically participates in the innate immune response to microbial agents. TLR5 is highly expressed in ovary and in peripheral blood leukocytes, most abundantly in monocytes and to a lesser extent in prostate and testis.

### REFERENCES

1. Gay, N.J., et al. 1991. *Drosophila* Toll and IL-1 receptor. *Nature* 351: 355-356.
2. Medzhitov, R., et al. 1997. A human homologue of the *Drosophila* Toll protein signals activation of adaptive immunity. *Nature* 388: 394-397.
3. Rock, F.L., et al. 1998. A family of human receptors structurally related to *Drosophila* Toll. *Proc. Natl. Acad. Sci. USA* 95: 588-593.
4. Yang, R.B., et al. 1998. Toll-like receptor-2 mediates lipopolysaccharide-induced cellular signalling. *Nature* 395: 284-288.
5. Brightbill, H.D., et al. 1999. Host defense mechanisms triggered by microbial lipoproteins through toll-like receptors. *Science* 285: 732-736.

### CHROMOSOMAL LOCATION

Genetic locus: TLR5 (human) mapping to 1q41.

### SOURCE

TLR5 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of TLR5 of human origin.

### PRODUCT

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

Blocking peptide available for competition studies, sc-8695 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### STORAGE

Store at 4 $^{\circ}$  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.

### APPLICATIONS

TLR5 (N-15) is recommended for detection of precursor TLR5 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with mature TLR5.

Suitable for use as control antibody for TLR5 siRNA (h): sc-40262, TLR5 shRNA Plasmid (h): sc-40262-SH and TLR5 shRNA (h) Lentiviral Particles: sc-40262-V.

Molecular Weight of TLR5: 110-120 kDa.

Positive Controls: THP-1 cell lysate: sc-2238 or NAMALWA cell lysate: sc-2234.

### SELECT PRODUCT CITATIONS

1. Gewirtz, A.T., et al. 2001. Cutting edge: bacterial flagellin activates basolaterally expressed tlr5 to induce epithelial proinflammatory gene expression. *J. Immunol.* 167: 1882-1885.
2. Baker, B.S., et al. 2003. Normal keratinocytes express Toll-like receptors (TLRs) 1, 2 and 5: modulation of TLR expression in chronic plaque psoriasis. *Br. J. Dermatol.* 148: 670-679.
3. Lee, S.K., et al. 2003. *Helicobacter pylori* flagellins have very low intrinsic activity to stimulate human gastric epithelial cells via TLR5. *Microbes Infect.* 5: 1345-1356.
4. Bambou, J.C., et al. 2004. *In vitro* and *ex vivo* activation of the TLR5 signaling pathway in intestinal epithelial cells by a commensal *Escherichia coli* strain. *J. Biol. Chem.* 279: 42984-42992.
5. Fazeli, A., et al. 2005. Characterization of Toll-like receptors in the female reproductive tract in humans. *Hum. Reprod.* 20: 1372-1378.
6. Zhang, Z., et al. 2005. Human airway epithelial cells sense *Pseudomonas aeruginosa* infection via recognition of flagellin by Toll-like receptor 5. *Infect Immun.* 73: 7151-7160.
7. Miyamoto, Y., et al. 2006. Role of Shiga toxin versus H7 flagellin in enterohaemorrhagic *Escherichia coli* signalling of human colon epithelium *in vivo*. *Cell Microbiol.* 8: 869-879.
8. Selleri, S., et al. 2008. Induction of pro-inflammatory programs in enteroendocrine cells by the Toll-like receptor agonists flagellin and bacterial LPS. *Int. Immunol.* 20: 961-970.
9. Aboussahoud, W., et al. 2010. Expression and function of Toll-like receptors in human endometrial epithelial cell lines. *J. Reprod. Immunol.* 84: 41-51.


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Try **TLR5 (19D759.2): sc-57461**, our highly recommended monoclonal alternative to TLR5 (N-15).