

## TLR2 (S-16): sc-16237

### 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. Expression of TLR receptors is highest in peripheral blood leukocytes, macro-phages, and monocytes. TLR6 is highly homologous to TLR1, sharing greater than 65% sequence identity, and like other members of TLR family, it induces NF $\kappa$ B signaling upon activation.

### 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.

### CHROMOSOMAL LOCATION

Genetic locus: Tlr2 (mouse) mapping to 3 E3.

### SOURCE

TLR2 (S-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of TLR2 of mouse 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-16237 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

TLR2 (S-16) is recommended for detection of TLR2 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TLR2 siRNA (m): sc-40257, TLR2 shRNA Plasmid (m): sc-40257-SH and TLR2 shRNA (m) Lentiviral Particles: sc-40257-V.

Molecular Weight of TLR2: 90 kDa.

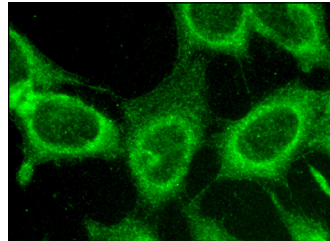
### STORAGE

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.

### DATA



TLR2 (S-16): sc-16237. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic and membrane localization.

### SELECT PRODUCT CITATIONS

1. Bornstein, S.R., et al. 2004. Impaired adrenal stress response in toll-like receptor 2-deficient mice. *Proc. Natl. Acad. Sci. USA* 47: 16695-16700.
2. Bornstein, S.R., et al. 2004. Toll-like receptor 2 and toll-like receptor 4 expression in human adrenals. *Horm. Metab. Res.* 36: 470-473.
3. Maes, T., et al. 2006. Murine TLR4 is implicated in cigarette smoke-induced pulmonary inflammation. *Int. Arch. Allergy Immunol.* 141: 354-368.
4. Flandin, J.F., et al. 2006. RNA interference reveals a role for TLR2 and TLR3 in the recognition of *Leishmania donovani* promastigotes by interferon- $\gamma$ -primed macrophages. *Eur. J. Immunol.* 36: 411-420.
5. Dissanayake, S. and Shahin, A. 2007. Induction of interferon-gamma by *Taenia crassiceps* glycans and Lewis sugars in naive BALB/c spleen and peritoneal exudate cells. *Mol. Immunol.* 44: 1623-1630.
6. Selleri, S., et al. 2007. Toll-like receptor agonists regulate  $\beta$ -defensin 2 release in hair follicle. *Br. J. Dermatol.* 156: 1172-1177.
7. Uno, K., et al. 2007. Toll-like receptor (TLR) 2 induced through TLR4 signaling initiated by *Helicobacter pylori* cooperatively amplifies iNOS induction in gastric epithelial cells. *Am. J. Physiol. Gastrointest. Liver Physiol.* 293: G1004-G1012.
8. Gonzalez, J.M., et al. 2007. Toll-like receptors in the uterus, cervix, and placenta: is pregnancy an immunosuppressed state? *Am. J. Obstet. Gynecol.* 197: e1-e6.
9. Zhong, B., et al. 2008. Decrease in toll-like receptors 2 and 4 in the spleen of mouse with endotoxic tolerance. *Inflamm. Res.* 57: 252-259.
10. Silva, M.A., et al. 2008. Intestinal epithelial barrier dysfunction and dendritic cell redistribution during early stages of inflammation in the rat: role for TLR-2 and -4 blockage. *Inflamm. Bowel Dis.* 14: 632-644.
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