

# TLR7 (C-1): sc-518178

## 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 $\kappa$ 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.
3. Brightbill, H.D., et al. 1999. Host defense mechanisms triggered by microbial lipoproteins through Toll-like receptors. *Science* 285: 732-736.
4. Du, X., et al. 2000. Three novel mammalian Toll-like receptors: gene structure, expression, and evolution. *Eur. Cytokine Netw.* 11: 362-371.
5. Chuang, T.H. and Ulevitch, R.J. 2000. Cloning and characterization of a subfamily of human Toll-like receptors: hTLR7, hTLR8, hTLR9. *Eur. Cytokine Netw.* 11: 372-378.

## CHROMOSOMAL LOCATION

Genetic locus: TLR7 (human) mapping to Xp22.2.

## SOURCE

TLR7 (C-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 44-69 within an N-terminal extracellular domain of TLR7 of human origin.

## PRODUCT

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

TLR7 (C-1) is available conjugated to agarose (sc-518178 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518178 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518178 PE), fluorescein (sc-518178 FITC), Alexa Fluor<sup>®</sup> 488 (sc-518178 AF488), Alexa Fluor<sup>®</sup> 546 (sc-518178 AF546), Alexa Fluor<sup>®</sup> 594 (sc-518178 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-518178 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-518178 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-518178 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

TLR7 (C-1) is recommended for detection of TLR7 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], 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 TLR7 siRNA (h): sc-40266, TLR7 shRNA Plasmid (h): sc-40266-SH and TLR7 shRNA (h) Lentiviral Particles: sc-40266-V.

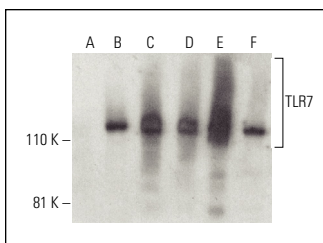
Molecular Weight of TLR7: 121 kDa.

Positive Controls: TLR7 (h): 293T Lysate: sc-115298, A549 cell lysate: sc-2413 or Ramos cell lysate: sc-2216.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



TLR7 (C-1): sc-518178. Western blot analysis of TLR7 expression in non-transfected 293T: sc-117752 (A), human TLR7 transfected 293T: sc-115298 (B), A549 (C), MCF7 (D), THP-1 (E) and Ramos (F) whole cell lysates. Detection reagent used: m-IgG $\kappa$  BP-HRP: sc-516102.

## STORAGE

Store at 4<sup>°</sup> 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](http://www.scbt.com) for detailed protocols and support products.