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Rabbit Polyclonal TLR13 antibody FITC-conjugated

Catalog Number: TLR13-FITC

Lot Number:

General Information

Product	TLR13 Antibody FITC
Description	Toll-like receptor 13 Antibody FITC-Conjugated
Accession #	Uniprot: Q6R5N8 GenBank: AAI17914.1
Verified Applications	ELISA, IP, WB
Species Cross Reactivity	Mouse, Rat
Host	Rabbit
Immunogen	Synthetic peptide taken within amino acid region 400-480 of mouse TLR13 protein.
Alternative Nomenclature	Toll like receptor 13 antibody

Physical Properties

Quantity	100 µg
Volume	200 µl
Form	FITC-Conjugated Immunoglobulins
Immunoglobulin & Concentration	0.68 mg/ml IgG in antibody stabilization buffer
Storage	Store at -20ºC for long term storage.

Recommended Dilutions

DOT Blot	1:10,000
ELISA	1:10,000
Immunoprecipitation	1:200
Western Blot	1:500

Related Products	Catalog #
Affinity Purified	TLR13-1301AP
BIOTIN-Conjugated	TLR13-BIOTIN
Antigenic Blocking Peptide	P-TLR13
Western Blot Positive Control	PC-TLR13

Overview:

The Toll-like receptor (TLR) multigene family encodes important recognition receptors of the innate immune system that have been conserved in both the invertebrate and vertebrate lineages. The mammalian host defense system is essentially regulated by these conserved Toll-like receptors. At least 13 TLRs have been identified and cloned in mammalian cells which recognize molecular products/signals from all the major classes of pathogens and activation of innate immunity. TLRs were identified as genes coding for both an N-terminal leucine-rich repeat (LRR) domain and a C-terminal Toll-IL-resistance (TIR) domain. The TLRs form families of ligand-binding proteins that engage a variety of microbial products, which on binding, activate signaling cascades leading to the synthesis of proinflammatory molecules. TLRs (Toll-like receptors) control host immune response against pathogens through recognition of molecular patterns specific to microorganisms. The Toll signaling to NF-Kb starts form conserved Toll-IL-1-resistance (TIR) domain, which mediated the coupling of TIR adaptor molecules (MyD88, Mal, TICAM and TRAM) and caused production of inflammatory cytokines such as IL-1, IL-6, IL-8 , TNFa, and IL-12, chemokines and co-stimulatory molecules such as CD40, CD80 and CD86. TLR induced apoptosis pathway is a repertoire of defense mechanism utilized by innate defense mechanism. The constitutive expression of many human TLRs (TLR1, TLR2, and TLR3) have been shown on the surface of myeloid lineage cells by RT-PCR and use of specific monoclonal antibodies. The expression of TLR 3, TLR 7, TLR 8 and TLR 9 are mainly found on endosomal lysosomal compartments. There is significant evidence of TLR involvement is many systemic disorders following bacterial infection including sepsis, peridontitis, cardiac ischemia, cerebral palsy and others. Understanding the TLRs involvement in these conditions will allow therapeutic interventions at the receptor level for treatment of these disorders. The TLR are highly conserved protein and share structural and functional domains across species. These receptors recognize pathogen associated molecular patters (PAMPs) that are expressed on infectious agents, and mediate the production of cytokines needed for production of immediate immunity. The cell-surface TLRs, including TLR1, TLR2, TLR4, and TLR6, recognize microbial membrane lipids, whereas TLR3, TLR7, TLR8, and TLR9 recognize pathogen-derived nucleotides in intracellular compartments. TLR7 and TLR9 respond to host-derived nucleotides as well, and they have been implicated in a variety of autoimmune diseases. Toll-like receptor 9 (TLR9) is a receptor for unmethylated CpG dinucleotides found in bacterial and viral DNA. TLR11-TLR13 and TLR21-TLR23 subfamilies are represented by pseudogenes in humans. TLR11-TLR13 are important targets in central nervous system infection.

TLR13 is a member of the Toll-like receptor family of transmembrane proteins comprised of multiple copies of leucine rich repeats in the extracellular domain and a TIR domain. This 991 amino acid containing protein is closely related to TLR3 and participates in the innate immune response to microbial agents. TLR13 binds to and acts via MYD88 and TRAF6, leading to NF-kappa-B activation, cytokine secretion and inflammatory response. TLR13 functions as a component of innate and adaptive immunity that recognizes and binds 23S rRNA from bacteria. It specifically binds the 5'-CGGAAAGACC-3' sequence on bacterial 23S rRNA, a sequence also bound by MLS group antibiotics (including erythromycin). TLR13 is not conserved in humans. Humans may instead possess a related rRNA-sensing pattern recognition receptor that has evolved to recognize species that can hide from TLR13 owing to rRNA modifications.

TLR13-selective antibodies were generated against a peptide taken from mouse TLR13 protein ranging from amino acids 400-480. The TLR13-selective antibodies are affinity purified on an immobilized antigen based affinity matrix. The isolated antibodies were then stabilized in antibody stabilization buffer for long-term storage. The TLR13-selective antibodies are fully characterized for applications in western blotting and ELISA at the recommended dilutions. Western blot positive control samples in “ready-to-use” SDS-PAGE sample buffer and antigenic blocking peptide for TLR13 are available. For a complete listing of FabGennix antibodies and lab services, please visit http://fabgennix.com.

References:

1. Signorino G1, Mohammadi N1, Patanè F1, Buscetta M1, Venza M2, Venza I2, Mancuso G1, Midiri A1, Alexopoulou L3, Teti G1, Biondo C4, Beninati C1. Role of TLR13 in innate immune recognition of group B streptococci. , Infect Immun. 2014 Sep 15.
2. Hidmark A1, von Saint Paul A, Dalpke AH. Cutting edge: TLR13 is a receptor for bacterial RNA. J Immunol. 2012 Sep 15; 189(6):2717-21. Doi: 10.4049/jimmunol.1200898. Epub 2012 Aug 15.
3. Oldenburg M1, TLR13 recognizes bacterial 23S rRNA devoid of erythromycin resistance-forming modification. Science. 2012 Aug 31; doi: 10.1126/science.1220363. Epub 2012 Jul 19

* For users who may require large amounts of the products listed above, please inquire about bulk material discounts.

This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.