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Rabbit Polyclonal TLR5 antibody FITC

Catalog Number: TLR5-FITC

Lot Number:

General Information

Product	TLR5 Antibody FITC
Description	FITC-Conjugated Toll-like receptor 5 Antibody
Accession #	Uniprot: O60602
Verified Applications	ELISA, IP, WB
Species Cross Reactivity	Cat, Human, Mouse, Pig
Host	Rabbit
Immunogen	Synthetic peptide taken within amino acid region 195-225 on human TLR5 protein.
Alternative Nomenclature	FLJ10052 antibody, MGC126430 antibody, MGC126431 antibody, SLEB1 antibody, TIL3 antibody, TLR5 antibody

Physical Properties

Quantity	100 µg
Volume	200 µl
Form	FITC-Conjugated Immunoglobulins
Immunoglobulin & Concentration	0.75 mg/ml IgG in antibody stabilization buffer
Storage	Store at -20ºC for long term storage.

Recommended Dilutions

DOT Blot	1:20,000
ELISA	1:20,000
Immunoprecipitation	1:200
Western Blot	1:500

Related Products	Catalog #
FITC-Conjugated	TLR5-FITC
BIOTIN-Conjugated	TLR5-BIOTIN
Antigenic Blocking Peptide	P-TLR5
Western Blot Positive Control	PC-TLR5

Overview:

The mammalian host defense system is essentially regulated by highly conserved Toll-like receptor (TLR) family of proteins. 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. 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. In the presence of inflammatory cytokines and binding of adaptor molecule, MyD88 that binds FADD and triggers apoptosis through the caspase cascade. TLR induced apoptosis pathway appears to be a repertoire of defense mechanism utilized by innate defense mechanism. The constitutive expression of many human TLRs (1, 2, 3) have been shown on the surface of myeloid lineage cells by RT-PCR and use of specific monoclonal antibodies. Upon activation of these receptors by their respective chemokines and ligands have been shown in literature on various cell lines including endothelial, epithelial and other cells. The expression of TLR 3, 7, 8 and 9 are mainly found on endosomal lysosomal compartments. Human TLR3 is expressed in human fibroblasts cells and TLR 9 in in-vitro derived DC cells. 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. TLR2 and TLR5 mRNA was detected in the CD8 (+) T cells from cord blood. The expression of TLR4 and TLR5 are reduced in asthmatic patients which may be partly responsible for immunopathological mechanism of asthma by reducing the release of Th1 anti-inflammatory cytokines (4). The first human toll like receptor to be identified, TLR4, senses lipopolysaccharide (LPS) while TLR2 on the other hand senses diacylated or triacylated lipopeptides after heterodimerizing with either TLR6 or TLR1, respectively. The conserved cytoplasmic TIR (Toll/IL-1 receptor) domains of the IL-1 and Toll-like receptors are the critical focal point for the generation of ligand-induced cytoplasmic signaling cascades. For signaling all the TLRs utilize one or more of the four known TIR-containing adaptor molecules: MyD88, TIRAP/MAL, TRIF, and TRAM. Human TLR2 is a 839 amino acid (105 kDa) type I trans-membrane receptor protein characterized by extracellular domains with leucine-rich repeats and a cytoplasmic domain with type I IL-1 receptor. The TLR 2 and 4 are pattern recognition receptors and signaling molecules in response to bacterial lipoproteins and is involved in innate immunity. TLR4 is expressed on peripheral blood and together with MD-2 and CD14 is responsible for LPS signaling recognition. Many specific adapter molecules (TICAM, MyD88, ICAM2, TRAM, TIRAP, TRIF etc) are also involved in signaling of several other TLRs. The TLR 5-selective antibodies were generated against peptide form unique region near the C-terminal end of Toll receptor-5 protein, this peptide sequence is not present in other members of theTLR family.

FabGennix Inc. has generated rabbit anti-TLR5 mono-epitope-specific antibodies utilizing linear and cyclic peptide methodology. The Anti-TLR5 antibodies have been fully characterized for cross reactivity with other members of the TLR family molecules and with cellular proteins using Western blot analyses. The TLR5 antibody is also available as BIOTIN-conjugate and FITC-conjugate; other conjugates can be ordered at a nominal charge. FabGennix has produced antibodies to all Toll receptors (TLR1-TLR13), these antibodies are now available for sale from us or from our distributors. FabGennix also provide western blot positive controls for TLR5 in ready-to-use buffer. Limited quantities of the antigenic blocking peptide for TLR5 antibodies is also available.

References:

1. Oshiumi H., Matsummoto M., Funami K., AkazawaT. Seya T. TICAM 1, an adapter molecule that participates in the Toll Like receptor 3-mediated interferon-beta induction. Nat. Immunol. 4: 161-167; 2003.
2. LPS-TLR4 signals to IRF-3/7 and NF-kB involves the Toll Adapters TRAM and TRIF. J. Exptl. Med. 198 (7) 1043-1055, 2003.
3. Oshiumi H, Sasai M, Shida K, Fujita T, Matsumoto M, Seya T. TIR-containing adapter molecule (TICAM)-2, a bridging adapter recruiting to toll-like receptor 4 TICAM-1 that induces interferon-beta. J Biol Chem. 2003 Dec 12; 278(50):49751-62. Epub 2003 Sep 30.
4. Lun SW, Wong CK, Ko FW, Hui DS, Lam CW. Expression and Functional Analysis of Toll-Like Receptors of Peripheral Blood Cells in Asthmatic Patients: Implication for Immunopathological Mechanism in Asthma. 1: J Clin Immunol. 2008 Dec 6. [Epub ahead of print).

* 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.