SP7196P

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Polyclonal Antibody to CD284 / TLR4 (420-456) - Purified

Alternate names: Toll-like receptor 4

Catalog No.: SP7196P

Quantity: 0.1 mg

Concentration: 0.5 mg/ml

Background: The Toll-like receptor (TLR) family in mammal comprises a family of transmembrane proteins characterized by multiple copies of leucine rich repeats in the extracellular domain and IL-1 receptor motif in the cytoplasmic domain. Like its counterparts in Drosophila, TLRs signal through adaptor molecules (1). The TLR family is a phylogenetically conserved mediator of innate immunity that is essential for microbial recognition (2). Ten human homologs of TLRs (TLR1-10) have been described (3). Among this family of receptors, TLR2 and TLR4 have been most studied. These studies have suggested that TLR2 and TLR4 may serve as potential main mediators of LPS signaling (4,5). The mouse TLR4 cDNA codes for a protein consisting of 835 amino acids with approximate molecular weight of 90 kDa (6).

Uniprot ID: Q9QUK6

NCBI: NP_067272.1

GeneID: 21898

Host / Isotype: Rabbit / IgG

Immunogen: Synthetic peptide corresponding to amino acids 420-456 of Human TLR4.
AA Sequence:
GLEQLEHLDFQHSNLK
Remarks: Genbank accession no. NP_612564

Format:
State: Liquid purified Ig fraction
Purification: Protein G Chromatography
Buffer System: PBS containing 0.5% BSA as stabilizer and 0.05% Sodium Azide as preservative

Applications:
Western blot analysis: 1-3 µg/ml. This antibody was tested against partial recombinant mouse TLR4 (extracellular portion plus His-tag), and a 75-80 kDa band was observed.
Immunohistochemistry on Paraffin Sections: 1/50.
Immunohistochemistry on Frozen Sections: See Ref.7 Fig.1 for details.
Flow Cytometry (Cell Surface): 1 µg/10^6 cells (See also Ref.8 Fig.11 for details).
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity:

This antibody recognizes Toll-like receptor 4 (TLR-4/CD284).
Species: Human and Mouse.
Other species not tested.

Storage:

Store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.
Avoid repeated freezing and thawing.
Shelf life: One year from despatch.

Product Citations:

Originator or purchased from resellers:

1. Herber DL, Maloney JL, Roth LM, Freeman MJ, Morgan D, Gordon MN. Diverse microglial responses after intrahippocampal administration of lipopolysaccharide. Glia. 2006 Mar;53(4):382-91. PubMed PMID: 16288481.
2. Carrithers M, Tandon S, Canosa S, Michaud M, Graesser D, Madri JA. Enhanced susceptibility to endotoxic shock and impaired STAT3 signaling in CD31-deficient mice. Am J Pathol. 2005 Jan;166(1):185-96. PubMed PMID: 15632011.
3. El Shikh ME, El Sayed RM, Wu Y, Szakal AK, Tew JG. TLR4 on follicular dendritic cells: an activation pathway that promotes accessory activity. J Immunol. 2007 Oct 1;179(7):4444-50. PubMed PMID: 17878340.

General Readings:

1. Muzio M, Natoli G, Saccani S, Levrero M, Mantovani A. The human toll signaling pathway: divergence of nuclear factor kappaB and JNK/SAPK activation upstream of tumor necrosis factor receptor-associated factor 6 (TRAF6). J Exp Med. 1998 Jun 15;187(12):2097-101. PubMed PMID: 9625770.
2. Medzhitov R, Janeway CA. Innate immunity: the virtues of a nonclonal system of recognition. Cell. 1997 Oct 31;91(3):295-8. PubMed PMID: 9363937.
3. Chuang TH and Ulevitch RJ. Biochim. Biophys. Acta 1518 (1-2): 157-161 (2001).
4. Takeuchi O, Hoshino K, Kawai T, Sanjo H, Takada H, Ogawa T, et al. Differential roles of TLR2 and TLR4 in recognition of gram-negative and gram-positive bacterial cell wall components. Immunity. 1999 Oct;11(4):443-51. PubMed PMID: 10549626.
5. Poltorak A, Ricciardi-Castagnoli P, Citterio S, Beutler B. Physical contact between lipopolysaccharide and toll-like receptor 4 revealed by genetic complementation. Proc Natl Acad Sci U S A. 2000 Feb 29;97(5):2163-7. PubMed PMID: 10681462.
6. Medzhitov R, Preston-Hurlburt P, Janeway CA. A human homologue of the Drosophila Toll protein signals activation of adaptive immunity. Nature. 1997 Jul 24;388(6640):394-7. PubMed PMID: 9237759.
7. Diverse microglial responses after intrahippocampal admnistration of lipopolysaccharide. Herber DL, JL Maloney, LM Roth, MJ Freeman, D Morgan and MN Gordon GLIA 53:382-391 (2006). IHC (Fr): Hippocampus from LPS-treated mice, Fig 1A, B, C.
8. Carrithers M, Tandon S, Canosa S, Michaud M, Graesser D, Madri JA. Enhanced susceptibility to endotoxic shock and impaired STAT3 signaling in CD31-deficient mice. Am J Pathol. 2005 Jan;166(1):185-96. PubMed PMID: 15632011.

Pictures:

Figure 4. Immunohistochemistry analysis of TLR4 in Formalin-Fixed, Paraffin-Embedded mouse spleen tissue using SP7196P (A) and Mouse Isotype Control (B) at 5 mg/ml.

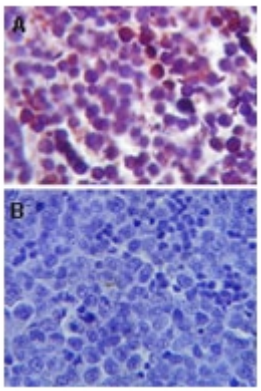

Figure 2. Immunohistochemistry analysis in Formalin-Fixed, Paraffin-Embedded normal (A) and tumor (B) prostate sections using TLR4 antibody SP7196P at 1/50 dilution *(Data courtesy of Dr. Regina Gandour-Edwards)*.

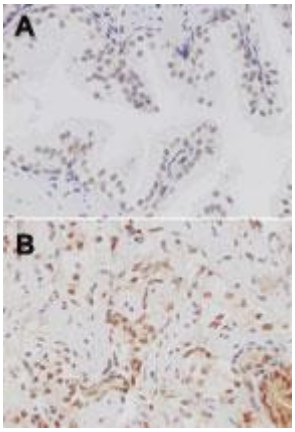

Figure 3. Immunocytochemistry analysis in Formalin-Fixed Ramos (A) and 293 (B) cells using TLR4 antibody SP7196P at 1/10 dilution *(Data courtesy of Dr. Regina Gandour-Edwards)*.

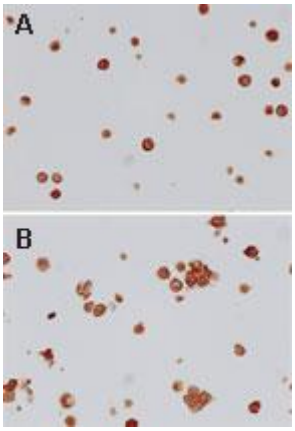

Figure 1. Western blot analysis using TLR4 antibody SP7196P at 2 µg/ml on partial recombinant mouse TLR4 protein.