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# Polyclonal Antibody to TLR7 (Toll-like receptor 7) PE Conjugate

**Catalog No** : **IMG-665D**
**Formulation** : 100 ug in 200 ul PBS with 0.05% sodium azide. Sodium azide is highly toxic.
**Isotype** : Rabbit IgG
**Purification** : Protein G Chromatography
**Species React** : Human, Mouse
**Host** : Rabbit

**Application**

FC (Intracellular): 0.5-1 ug/ 1x10^6 cells

**Storage**

Store at 4°C, stable for 6 months. DO NOT FREEZE; MATERIAL IS LIGHT-SENSITIVE.

## 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) and could constitute an important and unrecognized component of innate immunity in humans. The TLR family is a phylogenetically conserved mediator of innate immunity that is essential for microbial recognition (2). TLRs characterized so far activate the MyD88/interleukin-1 receptor-associated kinase (IRAK) signaling pathway. Ten human homologs of TLRs (TLR1-10) have been described (3). Stimulation of the NFkB signaling pathway by TLR7 suggests that it plays a role in immune response.

## Antigen

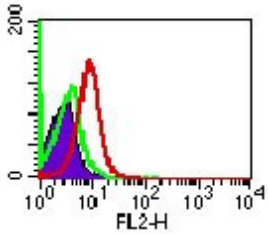
This antibody was developed against KLH-conjugated synthetic peptide corresponding to a portion of amino acids 650-700 of human TLR7.

## Application Notes

The amino acid sequence used as immunogen is 100% homologous in human and 72% homologous in mouse and rat.

## Genebank Info (Protein)

NP_057646




Flow analysis of TLR7 in human PBMCs (monocytes) using 0.5 ug/10^6 cells of IMG-665D. The shaded histogram represents cells alone, green represents PE-conjugated rabbit IgG isotype control; red represents anti-TLR7 antibody.

## Related Products

**1**. 10083K [IC-Flow (Intracellular Staining Flow Assay) Kit]
**2**. 20304C [Rabbit IgG Isotype Control (FITC Conjugate) ]
**3**. IMG-2207 [Imiquimod, TLR7 ligand]

## Reference

**1.** Medzhitov R and Janeway CA. Cell 91: 295-298 (1997).
**2.** Chuang TH and Ulevitch RJ. Biochim. Biophys. Acta 1518 (1-2): 157-161 (2001).
**3.** Muzio M, Natoli G, Saccani S, Levrero M, and Mantovani A.J. Exp. Med. 187: 2097-2101 (1998).

## Product Citations

**1. Activation of anti-hepatitis C virus responses via Toll-like receptor 7.** Lee J, CCN Wu, KJ Lee T-H Chuang, K Katakura, Y-T Liu, M Chan, R Tawatao, M Chung, C Shen, HB Cottam, MMC Lai, E Raz and DA Carson. *PNAS* 103:1828-1833 (2006). **Imgenex antibodies cited in this study: Flow (Intracellular) and Flow (Cell Surface) in human Huh-7 hepatoma cells, Fig. 1A [TLR7 (IMG-665A], [TLR8 (IMG-321C)], and [TLR9 (IMG-305D)]; IHC (paraffin) on Huh-7 cells, normal fibroblasts, HCV-infected liver, and liver carcinoma, Fig 1C-E (TLR7, IMG-665A). The specificity of the TLR7 antibody (IMG-665A) was validated using TLR7 293 transfected cells in Flow (Intracellular) (Supplemental Data, Fig. 5).**
**2. Early onset of inflammation and later involvement of TGFß in Duchenne muscular dystrophy.** Y. -W. Chen, K. Nagaraju, M. Bakay, O. McIntyre, R. Rawat, R. Shi, and E. P. Hoffman. *Neurology*, 65: 826-834 (2005). **Imgenex antibodies cited: 1. TLR7 (IMG-665) [IHC-F, Fig.3 (DMD muscle fibers)].**
**3. Intracellular Signaling Mechanisms Regulating Toll-Like Receptor-Mediated Activation of Eosinophils.** Wong CK, PFY Cheung, WK IP and CWK Lam. *Am. J. Respir. Cell Mol. Biol.*doi:10.1165/rcmb.2006-0457OC (2007), in press. **Imgenex antibodies cited (human blood eosinophils and neutrophils from buffy coat): For WB, Fig. 1A: TLR1 (IMG-5012), TLR5 (IMG-664), TLR6 (IMG-304A), TLR7 (IMG-540), TLR8 (IMG-321A), TLR9 (IMG-305A). For Flow (Intracellular) and Flow (Surface), Fig. 1B: TLR1 (IMG-5021), TLR2 (IMG-416C), TLR3 (IMG-315C), TLR4 (IMG-417C), TLR5 (IMG-663C), TLR6 (IMG-304C), TLR7 (IMG-665A), TLR8 (IMG-321C), TLR9 (IMG-305C).**
**4. Pathology of experimental SARS coronavirus infection in cats and ferrets.** Van den Brand J, B Haagmans, L Leijten, D Riel, B Martina, A Osterhaus, T Kuiken. *Vet Pathol* 45: 551-562 (2008). **IF/ICC (SARS infected ferret and cat).**

**5.**
**STAT3 and STAT5-dependent pathways competitively regulate the pan-differentiation of DC34pos cells into tumor-competent dendritic cells.** Cohen P, Koski G, Czerniecki B, Bunting K, Fu X, Wang Z, Zhang W, Carter C, Awad M, Distel C, Nagem H, Paustian C, Johnson T, Tisdale J, Shu S. *Immunobiology* 112: 1832-1843 (2008). **Imgenex antibodies cited [Flow (intracellular), mouse bone marrow cells, Supplementary Fig. S4]:**
**1. TLR3 FITC (IMG-315C)**
**2. TLR4 FITC (IMG-5031C)**
**3. TLR7 (IMG-665A)**
**4. TLR8 FITC (IMG-321C)**
**5. TLR9 FITC (IMG-305C)**

**6. Role of atopic status in Toll-like receptor (TLR)7- and TLR9- mediated activation of human eosinophils.** Mansson A, L cardell. *Journal of Leukocyte Biology* 85: 1-9 (2009).
**Imgenex antibodies cited:**
**1. IMG-665F (TLR7-Atto 488) [replaced by IMG-665C (TLR7-FTIC)]: Flow (intracellular), human eosinophils, Fig. 1B.**
**7. Ro60-associated single-stranded RNA links inflammation with fetal cardiac fibrosis via ligation of TLRs: A novel pathway to autoimmune-associated heart block.** Clancy R, D Alvarez, E Komissarova, F Barrat, J Swartz, J Buyon. *J Immunol,* 184: 2148-2155 (2010). **IMGENEX antibodies cited:**
**1. TLR-7 (IMG-665A): Primary human macrophages derived from PBMCs, Flow (Intracellular): Fig 1A**
**2. TLR-8 FITC (IMG-321C): Primary human macrophages derived from PBMCs Flow (Intracellular): Fig 1A**
**3. TLR-7 (IMG-581A): Fetal cardiac fibroblasts, IHC (paraffin) fixed: Fig 7A**



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