

DESCRIPTION

Species Reactivity	Human
Specificity	Stains human TLR2 transfectants but not irrelevant transfectants.
Source	Monoclonal Mouse IgG _{2B} Clone # 383936
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	NS0 mouse myeloma cell line transfected with human TLR2 Accession # O60603
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10 ⁶ cells	Human whole blood monocytes

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Human toll-like receptor (TLR) family includes ten members that activate the innate immune response via an ability to recognize molecular structures found in a variety of microbial pathogens (1-3). All TLR family members are type I transmembrane proteins with a large number of extracellular leucine-rich repeats (LRRs) and a cytoplasmic Toll/IL-1 receptor (TIR) domain. Human TLR2 is synthesized as a 784 amino acid (aa) precursor (2) that contains a signal sequence (aa 1-18), an extracellular domain (aa 19-588) with approximately 20 LRRs, a transmembrane segment (aa 589-609), and a cytoplasmic TIR domain (aa 610-784). The receptor is expressed on a number of cell types including monocytes, dendritic cells, neutrophils, B cells endothelial cells, and hepatocytes (1, 2, 4). TLR2 functions as part of a heterodimeric complex with either TLR1 or TLR6, and possibly other co-receptors (1). These complexes recognize lipoproteins and glycolipids from gram-positive and gram-negative bacteria as well as mycoplasma and yeast. TLR2/TLR1 heterodimers bind triacylated lipopeptides, while the TLR2/TLR6 heterodimer preferentially recognizes diacylated lipopeptides (5). Upon ligand recognition, TLR2 delivers an activating signal via the associated adapter molecules, MyD88 and TIRAP (1, 6). TLR2 signaling results in dendritic cell maturation characterized by increased surface expression of class II MHC and the T cell costimulators, CD80 and CD86 (1, 2). Activation via TLR2 also results in production of a number of pro-inflammatory cytokines including TNF-α, IL-2, IL-6, IL-12, and MIP-2 (1-3).

References:

1. Wetzler, L. (2003) *Vaccine* **21**:S2/55.
2. Kirschning, C. and R. Schumann (2002) *Curr. Top. microbiol. Immunol.* **270**:121.
3. Netea, M. *et al.* (2004) *J. Leukoc. Biol.* **75**:749.
4. Flo, T. *et al.* (2001) *J. Leukoc. Biol.* **69**:474.
5. Akira, S. (2003) *Curr. Opin. Immunol.* **15**:5.
6. Yamamoto, M. *et al.* (2002) *Nature* **420**:324.

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