Human MMR/CD206
Alexa Fluor® 700-conjugated Antibody

Monoclonal Mouse IgG_{2A} Clone # 685641

Catalog Number: FAB25342N

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human MMR/CD206 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant mouse MMR is observed.
Source	Monoclonal Mouse IgG_{2A} Clone # 685641
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse MMR/CD206 Leu19-Lys1383 (Thr399Ala) & (Leu407Phe) Accession # P22897
Conjugate	Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 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 monocyte-derived immature dendritic cells

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.** ● 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

The human Macrophage Mannose Receptor (MMR), also known as CD206 and MRC1 (mannose receptor C, type 1), is a 190 kDa scavenger receptor that is expressed on tissue macrophages, myeloid dendritic cells, and liver and lymphatic endothelial cells (1). It belongs to a family of receptors sharing similar protein structure that also includes DEC205, phospholipase A2 receptor, and Endo180 (2, 3). The human MMR protein is synthesized as a 1456 amino acid (aa) precursor that contains an 18 aa signal sequence, a 1371 aa extracellular region, a 21 aa transmembrane segment and a 46 aa cytoplasmic domain (4). Its extracellular region is composed of an N-terminal cysteine-rich domain, followed by a single fibronectin type II repeat, and eight C-type lectin carbohydrate recognition domains (CRD) (3, 4). Human to mouse, the extracellular region is 82% aa identical. The cysteine-rich domain mediates recognition of sulfated N-acetylgalactosamine, which occurs on some extracellular matrix proteins and is the terminal sugar of the unusual oligosaccharides present on pituitary hormones such as lutropin and thyrotropin (5). Several of the CRDs participate in the $Ca2^+$-dependent recognition of carbohydrates showing a preference for branched sugars with terminal mannose, fucose or N-acetylglucosamine (6). The cytoplasmic domain of MMR includes a tyrosine-based motif for internalization in clathrin-coated vesicles. Once internalized, ligands are released following acidification of phagosomes or endosomes, and the receptor is recycled to the cell surface (3, 7). MMR mediates phagocytosis upon binding to target structures that occur on a variety of pathogenic microorganisms including Gram-negative and Gram-positive bacteria, yeasts, parasites, and mycobacteria. MMR also functions to maintain homeostasis through the endocytosis of potentially harmful glycoproteins associated with inflammation (2, 3).

References:

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3. Figdor, C. *et al.* (2002) Nat. Rev. Immunol. **2**:77.
4. Taylor, M. *et al.* (1990) J. Biol. Chem. **265**:12156.
5. Leteux, C. *et al.* (2000) J. Exp. Med. **191**:1117.
6. Martinez-Pomares, L. *et al.* (2001) Immunobiology **204**:527.
7. Feinberg, H. *et al.* (2000) J. Biol. Chem. **275**:21539.

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