

#### DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human DC-SIGN/CD209 on transfected NIH/3T3 cells and on monocyte derived dendritic cells. Does not react with parental mouse cells or irrelevant transfectants, such as human DC-SIGN2.
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 120507
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	NIH-3T3 mouse embryonic fibroblast cell line transfected with human DC-SIGN/CD209
<b>Conjugate</b>	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm
<b>Formulation</b>	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
<b>Flow Cytometry</b>	0.25-1 µg/10 <sup>6</sup> cells	Human DC-SIGN transfected 3T3 mouse embryonic fibroblast cell line and human monocyte derived dendritic cells

#### PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> ● 12 months from date of receipt, 2 to 8 °C as supplied.

#### BACKGROUND

Human DC-Sign (dendritic cell-specific ICAM-3 grabbing nonintegrin; also CD209) is a member of the chromosome 19 C-type lectin family that includes DC-SIGN, DC-SIGN-related protein, CD23 and LSECtin (1). DC-SIGN was initially reported to be a 46 kDa, 404 amino acid (aa) type II transmembrane protein that contained a 40 aa cytoplasmic N-terminus, a 21 aa transmembrane segment, and a 343 aa extracellular C-terminus (2). The extracellular region contains a distal, 115 aa Ca<sup>++</sup>-dependent carbohydrate-binding lectin domain and a membrane-proximal linker segment that is composed of seven 23 aa repeats (2, 3). The lectin domain is believed to preferably bind mannose, either within the context of ICAM-3 (on T cells) or ICAM-2 (on endothelial cells) (2, 4, 5). DC-SIGN expression appears to be limited to dendritic cells (DC) and macrophages (6), and DC interaction with the ICAMs both aids DC cell trafficking and immunological synapse formation (7). Since the original report on DC-SIGN, multiple splice forms have been discovered, generating both membrane-bound and soluble forms (3). There are eight type A isoforms, all of which begin with the same 15 aa of exon 1a. Four contain the transmembrane region of exon II, and four do not (*i.e.*, are soluble). Among these eight type A isoforms, only three retain the entire 343 aa found in the full length form described in reference #2 (the full length form is referred to as type I mDC-SIGN1A) (3). Five additional isoforms utilize an alternate start site, and these are referred to as type B isoforms. These all show a 35 aa cytoplasmic domain. One also has a transmembrane segment; four do not. Two of the five contain full, unspliced extracellular regions (3). All of this suggests enormous complexity in DC-SIGN biology. DC-SIGN is not well conserved across species. Human and mouse show little overall aa identity. In the lectin domain, however, human DC-SIGN shares 68% aa identity with mouse DC-SIGN (8). Human and rhesus monkey DC-SIGN share 91% aa identity over the entire extracellular region (8). A detailed description of the additional properties of this monoclonal antibody (MAB161) have been published (9, 10).

#### References:

1. Liu, W. *et al.* (2004) *J. Biol. Chem.* **279**:18748.
2. Curtis, B.M. *et al.* (1992) *Proc. Natl. Acad. Sci. USA* **89**:8356.
3. Mummidi, S. *et al.* (2001) *J. Biol. Chem.* **276**:33196.
4. Su, S.V. *et al.* (2004) *J. Biol. Chem.* **279**:19122.
5. Cambi, A. *et al.* (2005) *Cell. Microbiol.* **7**:481.
6. Serrano-Gomez, D. *et al.* (2004) *J. Immunol.* **173**:5635.
7. Geijtenbeek, T.B.H. and Y. van Kooyk (2003) *Curr. Top. Microbiol. Immunol.* **276**:32.
8. Baribaud, F. *et al.* (2001) *J. Virol.* **75**:10281.
9. Wu, L. *et al.* (2002) *J. Virol.* **76**:5905.
10. Baribaud, F. *et al.* (2002) *J. Virol.* **76**:9135.

**PRODUCT SPECIFIC NOTICES**

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.