

DESCRIPTION

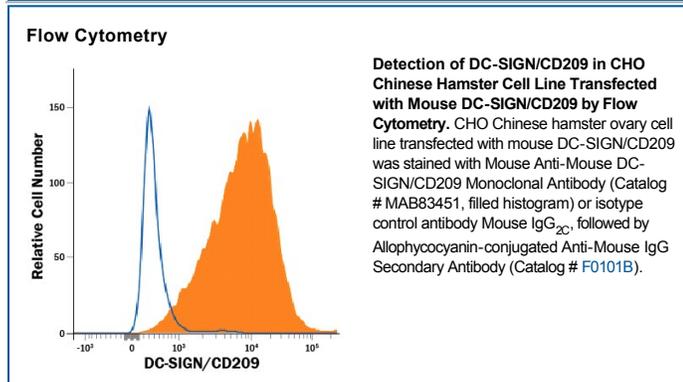
Species Reactivity	Mouse
Specificity	Detects mouse DC-SIGN/CD209 in direct ELISAs.
Source	Monoclonal Mouse IgG _{2C} Clone # MMD3
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Purified mouse DC-SIGN/CD209 extracellular domain Accession # FJ168685
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

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 µg/10 ⁶ cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Human DC-Sign (Dendritic Cell-Specific ICAM-3 Grabbing Nonintegrin), also known as 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⁺⁺-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).

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.