

DESCRIPTION

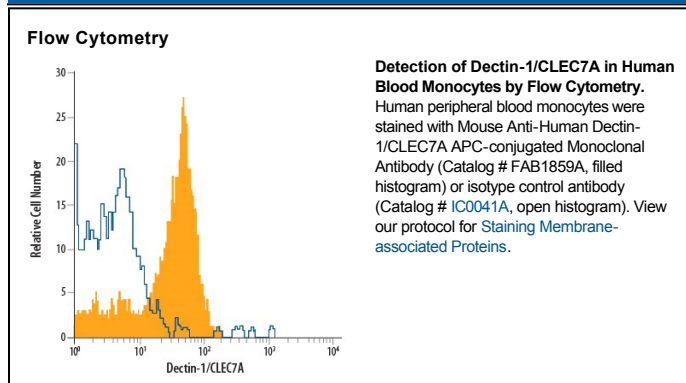
Species Reactivity	Human
Specificity	Detects human Dectin-1/CLEC7A in direct ELISAs. In direct ELISAs, less than 10% cross-reactivity with recombinant human (rh) DLEC and no cross-reactivity with recombinant mouse Dectin-1 or rhDectin-2 is observed.
Source	Monoclonal Mouse IgG _{2B} Clone # 259931
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Dectin-1/CLEC7A Thr66-Met201 Accession # NP_072092
Conjugate	Allophycocyanin Excitation Wavelength: 620-650 nm Emission Wavelength: 660-670 nm
Formulation	Supplied 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	10 μ L/10 ⁶ cells	See Below

DATA



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

Dectin-1, also known as CLEC7A and the β -glucan receptor, is a 33 kDa type II transmembrane C-type lectin that participates in the innate immune response to fungal pathogens. Although Dectin-1 structurally resembles other CLEC molecules, it binds its ligands in a calcium-independent manner (1, 2). Mature human Dectin-1 consists of a short N-terminal ITAM-containing cytoplasmic tail, a transmembrane segment, and a C-terminal stalk with a carbohydrate recognition domain (CRD) in the extracellular domain (3, 4). Alternate splicing generates one major splice form that lacks the stalk region (3–5). This isoform is expressed on the surface of monocytes, macrophages, myeloid DC, neutrophils, eosinophils, B cells, and CD4⁺ T cells (6). The CRD selectively binds β -glucan polymers, a major component of yeast and mycobacterial cell walls (5–7). Yeast β -glucan is accessible to Dectin-1 only during the process of cell budding. Dectin-1 does not recognize the filamentous form of yeast (8). Dectin-1 mediates the phagocytosis of zymosan particles and intact yeast (8–10). In the membrane, Dectin-1 colocalizes with TLR2 in the presence of zymosan, and the two receptors cooperate in ligand recognition and the propagation of proinflammatory signaling (9, 11–13). Dectin-1 also interacts with tetraspanin CD37. This increases its stability on the cell membrane and inhibits ligand-induced signaling (14). Dectin-1 knockout mice show increased susceptibility to pathogenic infection (15–16). The CRD of human Dectin-1 shares 77%, 60%, and 60% amino acid (aa) sequence identity with that of bovine, mouse and rat Dectin-1, respectively. It shares 29%–39% aa sequence identity with the CRD of other subgroup members, including CLEC-1, CLEC-2, CLEC9A, CLEC12B, LOX-1, and MICL.

References:

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