

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Dectin-1 in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 5% cross-reactivity with recombinant human Dectin-1 and recombinant mouse Dectin-2α is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Dectin-1/CLEC7A Phe69-Leu244 Accession # Q6QLQ4
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *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.

CyTOF-ready	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Blockade of Receptor-ligand Interaction	Optimal dilution of this antibody should be experimentally determined.
Flow Cytometry	Optimal dilution of this antibody should be experimentally determined.

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

Dectin-1, also known as CLEC7A and the β-glucan receptor, is a 43 kDa type II transmembrane C-type lectin that functions in the innate immune response to fungal pathogens. Although Dectin-1 resembles other CLEC molecules structurally, it binds ligands in a calcium-independent manner (1, 2). Mature mouse Dectin-1 is a 244 amino acid (aa) glycoprotein that consists of a short ITAM-containing cytoplasmic tail, a transmembrane segment, and a stalk and carbohydrate recognition domain (CRD) in the extracellular domain (3). The CRD of mouse Dectin-1 shares 61%, 60%, and 87% aa sequence identity with that of bovine, human, and rat Dectin-1, respectively. It shares 25-34% aa sequence identity with the CRD of other subgroup members CLEC-1, CLEC-2, CLEC9A, CLEC12B, LOX-1, and MICL. Mouse Dectin-1 is alternately spliced, generating a variant that lacks the stalk region (4). Mouse Dectin-1 is expressed on monocytes, macrophages, and neutrophils, and on some populations of dendritic cells and T cells (5). It is upregulated on macrophages by GM-CSF, IL-4, or IL-13 and downregulated by dexamethasone, IL-10, or LPS (6). The CRD selectively binds β-glucan polymers, a major component of yeast and mycobacterial cell walls (7). Yeast β-glucan is accessible to Dectin-1 only at sites of cell budding, and Dectin-1 does not recognize the filamentous form of yeast (8). Dectin-1 mediates the phagocytosis of zymosan particles and intact yeast (8-10). It co-localizes 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 interaction with the tetraspanin CD37 increases its stability on the cell membrane and inhibits ligand-induced signaling (14). Genetic knockout of Dectin-1 in mice increases their susceptibility to pathogenic infection (15, 16).

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