

Dectin-1/CLEC7A Protein, Mouse (HEK293, N-His)

Cat. No.:	HY-P75296A
Synonyms:	C-type lectin domain family 7 member A; Clec7a; CD369; Clec7a
Species:	Mouse
Source:	HEK293
Accession:	NP_064392.2/Q6QLQ4 (F69-L244)
Gene ID:	56644
Molecular Weight:	Approximately 25-30 kDa

PROPERTIES

AA Sequence	<pre> FWRHNSGRNP EEKDNFLSRN KENHKPTSS LDEKVPASKA SQTGGFSQP CLPNWIMHGK SCYLFSFSGN SWYGSKRHCS QLGAHLKID NSKEFEFIES QTSSHRINAF WIGLSRNQSE GPWFWDGSA FFPNSFQVRN TAPQESLLHN CVWIHGSEVY NQICNTSSYS ICEKEL </pre>
Biological Activity	Immobilized Mouse Dectin-1 at 2 µg/mL (100 µL/well) can bind Anti-Dectin-1 Antibody. The ED ₅₀ for this effect is 0.6208 µg/mL.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.22 µm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	The Dectin-1/CLEC7A protein operates as a lectin, specifically recognizing beta-1,3-linked and beta-1,6-linked glucans found in the cell walls of pathogenic bacteria and fungi. Essential for the Toll-like receptor 2 (TLR2)-mediated inflammatory response, Dectin-1/CLEC7A activates NF-kappa-B by recruiting spleen tyrosine kinase (SYK) through its immunoreceptor tyrosine-based activation motif (ITAM). This initiates a signaling cascade involving the CARD domain-BCL10-MALT1 (CBM)
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signalosomes, leading to the activation of NF-kappa-B and MAP kinase p38 pathways. Consequently, this cascade stimulates the expression of genes encoding pro-inflammatory cytokines and chemokines. Additionally, Dectin-1/CLEC7A enhances cytokine production in macrophages and dendritic cells, mediates the production of reactive oxygen species, and facilitates the phagocytosis of *C. albicans* conidia. Notably, it binds to T-cells independently of their surface glycans, playing a role in T-cell activation, stimulating T-cell proliferation, and inducing SCIMP phosphorylation upon beta-glucan binding. The protein forms homodimers and interacts with SYK, contributing to leukocyte activation in the presence of fungal pathogens.

Caution: Product has not been fully validated for medical applications. For research use only.

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