

Dectin-1/CLEC7A Protein, Human (HEK293, Fc)

Cat. No.:	HY-P70101
Synonyms:	rHuC-type lectin domain family 7 member A/Dectin-1, Fc; Beta-glucan receptor; BGR; CD369; CLEC7A; CLECSF12; CLECSF12DC-associated C-type lectin 1; Dectin1; Dectin-1; DECTIN1CANDF4
Species:	Human
Source:	HEK293
Accession:	Q9BXN2 (T66-M247)
Gene ID:	64581
Molecular Weight:	50-65 kDa

PROPERTIES

AA Sequence	<p>T M A I W R S N S G S N T L E N G Y F L S R N K E N H S Q P T Q S S L E D S V T</p> <p>P T K A V K T T G V L S S P C P P N W I I Y E K S C Y L F S M S L N S W D G S K</p> <p>R Q C W Q L G S N L L K I D S S N E L G F I V K Q V S S Q P D N S F W I G L S R</p> <p>P Q T E V P W L W E D G S T F S S N L F Q I R T T A T Q E N P S P N C V W I H V</p> <p>S V I Y D Q L C S V P S Y S I C E K K F S M</p>
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, 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	<p>Dectin-1/CLEC7A Protein operates as a lectin, functioning as a pattern recognition receptor (PRR) specifically designed for beta-1,3-linked and beta-1,6-linked glucans, prominent constituents of cell walls in pathogenic bacteria and fungi. Essential for the Toll-like receptor 2 (TLR2)-mediated inflammatory response, Dectin-1, upon binding to beta-glucan, recruits spleen tyrosine kinase (SYK) via its immunoreceptor tyrosine-based activation motif (ITAM) and instigates a signaling cascade. This cascade activates CARD domain-BCL10-MALT1 (CBM) signalosomes, leading to the activation of NF-kappa-B and MAP kinase p38 pathways. Consequently, the stimulation of gene expression encoding pro-inflammatory cytokines and chemokines ensues, thereby enhancing cytokine production in macrophages and dendritic cells. Beyond its role in inflammation, Dectin-</p>
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1 mediates the production of reactive oxygen species and is instrumental in the phagocytosis of *Candida albicans* conidia. Moreover, Dectin-1 binds T-cells, playing a role in T-cell activation, inducing phosphorylation of SCIMP upon beta-glucan binding. Existing as a homodimer, Dectin-1 interacts with SYK, participating in 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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