

## Dectin-1/CLEC7A Protein, Mouse (HEK293, Fc)

<b>Cat. No.:</b>	HY-P700694
<b>Synonyms:</b>	Beta-glucan receptor; DC-associated C-type lectin 1; Dectin-1; Dectin1; CD369; BGR; CLECSF12; DECTIN1; CANDF4
<b>Species:</b>	Mouse
<b>Source:</b>	HEK293
<b>Accession:</b>	Q6QLQ4 (G71-L244)
<b>Gene ID:</b>	56644
<b>Molecular Weight:</b>	50-65 kDa

### PROPERTIES

<b>Appearance</b>	Lyophilized powder
<b>Formulation</b>	Lyophilized from a 0.22 $\mu$ m filtered solution of PBS, pH 7.4. Normally 8% trehalose is added as protectant before lyophilization.
<b>Endotoxin Level</b>	<1 EU/ $\mu$ g, determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 $\mu$ g/mL in ddH <sub>2</sub> O.
<b>Storage &amp; Stability</b>	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.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

<b>Background</b>	<p>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) 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 <i>C. albicans</i> 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.</p>
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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