

Dectin-1 Protein, Human, Recombinant

General Information

Synonyms:	C-type lectin domain family 7, member A;CLECSF12;DECTIN1;CANDF4;BGR
Protein Construction:	A DNA sequence encoding the extracellular domain of the human Dectin1 (NP_072092.2) (Thr66-Met201) was expressed. Predicted N terminal: Thr 66
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q9BXN2-2
Molecular Weight:	15.5 kDa (predicted); 15 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:
It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:
In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Dectin-1 was recently identified as the most important receptor for beta-glucan. It is a type II transmembrane protein which binds beta-1,3 and beta-1,6 glucans, and is expressed on most cells of the innate immune system and has been implicated in phagocytosis as well as killing of fungi by macrophages, neutrophils and dendritic cells. Recognition of beta-glucan by dectin-1 triggers effective immune response, including phagocytosis and proinflammatory factor production, to eliminate infecting fungi, which especially benefits immunocompromised

patients against opportunistic fungal infection. In addition, dectin-1 is involved in the adaptive immune response as well as autoimmune diseases and immune tolerance. Dectin-1 can recognize and respond to live fungal pathogens and is being increasingly appreciated as having a key role in the innate responses to these pathogens. In addition to its exogenous ligands, Dectin-1 can recognize an unidentified endogenous ligand on T cells and may act as a co-stimulatory molecule. Recent studies have highlighted the importance of Dectin-1 in anti-fungal immunity, in both mice and humans, and have suggested a possible involvement of this receptor in the control of mycobacterial infections.

Reference

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Sun L, et al. (2007) The biological role of dectin-1 in immune response. *Int Rev Immunol.* 26(5-6): 349-64.

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Reid DM, et al. (2009) Pattern recognition: recent insights from Dectin-1. *Curr Opin Immunol.* 21(1): 30-7.

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