



**LD Biopharma, Inc.**  
7384 Trade Street, Suite B  
San Diego, CA 92121  
Tel: 858-876-8266  
<http://www.ldbiopharma.com>

## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human CLEC7A Protein  
**Catalog Number:** hRP-2128  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Human C-type lectin domain family 7 member A ( CLEC7A, also named as CD369 ) gene encodes a member of the C-type lectin/C-type lectin-like domain (CTL/CTLD) superfamily. The encoded glycoprotein is a small type II membrane receptor with an extracellular C-type lectin-like domain fold and a cytoplasmic domain with an immunoreceptor tyrosine-based activation motif. It functions as a pattern-recognition receptor that recognizes a variety of beta-1,3-linked and beta-1,6-linked glucans from fungi and plants, and in this way plays a role in innate immune response. Lectin that functions as pattern receptor specific for beta-1,3-linked and beta-1,6-linked glucans, such as cell wall constituents from pathogenic bacteria and fungi. CLEC7A is necessary for the TLR2-mediated inflammatory response and for TLR2-mediated activation of NF-kappa-B. It enhances cytokine production in macrophages and dendritic cells. It also mediates production of reactive oxygen species in the cell. CLEC7A mediates phagocytosis of *C.albicans* conidia. It binds T-cells in a way that does not involve their surface glycans and plays a role in T-cell activation; stimulates T-cell proliferation.

Full-length extracellular domain of human Dectin-1 protein cDNA (66 – 247 aa) was constructed with codon optimization gene synthesis and expressed with a human N-terminal T7-His-TEV cleavage site Tag (29aa) fusion. This protein was expressed in *E. coli* as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

**Gene Symbol:** DECTIN1 (CLEC7A; CD369; CANDF4; BGR; CLECSF12)  
**Accession Number:** NP\_922938  
**Species:** Human  
**Size:** 50 µg / Vial  
**Composition:** 0.5 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.



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**Storage:** In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

## Key References

Zhong J, et al., *Inhibition of TREM-1 and Dectin-1 Alleviates the Severity of Fungal Keratitis by Modulating Innate Immune Responses*. PLoS ONE 11 (3), E0150114 (2016)

Gensel JC, et al., *Toll-Like Receptors and Dectin-1, a C-Type Lectin Receptor, Trigger Divergent Functions in CNS Macrophages*. J. Neurosci. 35 (27), 9966-9976 (2015)

Yokota K, et al., *Identification of a human homologue of the dendritic cell-associated C-type lectin-1, dectin-1*. Gene 272 (1-2), 51-60 (2001)

## Applications

1. May be used for in vitro CLEC7A mediated Dendritic / T cell activation regulation study with this protein either as soluble factor or as coating matrix protein.
2. May be used for protein-protein interaction assay.
3. Potential anti-cancer therapeutic protein, such as to be utilized as T cell activation protein both in vitro and in vivo.
4. As immunogen for specific antibody production.

## Quality Control

Purity: > 90% by SDS-PAGE.

## Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHENLYFQGGEFTMAIWRSNSSGSNTLENGYFLSRNKENHSQPTQSSL  
EDSVTPTKAVKTTGVLSSPCPPNWIIEYKSCYLFSMSLNSWDGSKRQCWQLGSNLLKIDSSNEL  
GFIVKQVSSQPDNSFWIGLSRPQTEVPWLWEDGSTFSSNLFQIRTTATQENPSPNCVWIHVSVI  
YDQLCSVPSYSICEKKFSM