



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CD111 Protein
Catalog Number: hRP-0568
Manufacturer: LD Biopharma, Inc.

Introduction

Human poliovirus receptor-related protein 1 (PVRL1, CD111) gene encodes an adhesion protein that plays a role in the organization of adherens junctions and tight junctions in epithelial and endothelial cells. The protein is a calcium²⁺-independent cell-cell adhesion molecule that belongs to the immunoglobulin superfamily and has 3 extracellular immunoglobulin-like loops, a single transmembrane domain (in some isoforms), and a cytoplasmic region. This protein acts as a receptor for glycoprotein D (gD) of herpes simplex viruses 1 and 2 (HSV-1, HSV-2), and pseudorabies virus (PRV) and mediates viral entry into epithelial and neuronal cells. Mutations in this gene cause cleft lip and palate / ectodermal dysplasia 1 syndrome (CLPED1) as well as non-syndromic cleft lip with or without cleft palate (CL/P). Alternative splicing results in multiple transcript variants encoding proteins with distinct C-termini.

Full-length human CD111 extracellular domain cDNA (31-355aa, Isoform-1, derived from BC104948) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein is 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: CD111 (PVRL1; Nectin-1, CLPED1; ED4; HIgR; HVEC)
Accession Number: NP_002846
Species: Human
Size: 50 µg / Vial
Composition: 1.0 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

Key References



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Gianni,T. et al., *alphaVbeta3-integrin relocalizes nectin1 and routes herpes simplex virus to lipid rafts*. J. Virol. 86 (5), 2850-2855 (2012)

Di Giovine,P., *Structure of herpes simplex virus glycoprotein D bound to the human receptor nectin-1*. PLoS Pathog. 7 (9), E1002277 (2011)

Geraghty,R.J.,et al., *Entry of alphaherpesviruses mediated by poliovirus receptor-related protein 1 and poliovirus receptor*. Science 280 (5369), 1618-1620 (1998)

Applications

1. May be used for in vitro cell receptors interaction for epithelial, endothelial and neuronal differentiation regulations study with this protein as coating matrix protein.
2. May be used for CD111 protein-protein interaction assay
3. May be used for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGEQVVQVNDSEMYGFI GTDVVLHCSFANPLPSVKITQVT
WQKSTNGSKQNVAIYNPSMGVSVLAPYRERVEFLRPSFTDGTIRLSRLELEDEGVYICEFATFP
TGNRESQLNLTVMKPTNWI EGTQAVLRKKGQDDKVLVATCTSANGKPPSVVSWETRLKGEAE
YQEIRNPNGTVTVISRYRLVPSREAHQQSLACIVNYHMDRFKESLTLNVQYEP EVTIEGFDGNW
YLQRMDVKLTCKADANPPATEYHWTTLNGSLPKGV E AQNRTLFFKGPINYS LAGTYICEATNPI
GTRSGQVEVNITEFPYTPSPPEHGRRAGPVPTA