



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CD299 Protein
Catalog Number: HRP-2594
Manufacturer: LD Biopharma, Inc.

Introduction

Human C-type lectin domain family 4 member M (CLEC4M, also named as CD299) gene encodes a receptor and is often referred to as L-SIGN because of its expression in the endothelial cells of the lymph nodes and liver. CD299 is involved in the innate immune system and recognizes numerous evolutionarily divergent pathogens ranging from parasites to viruses, with a large impact on public health. CD299 protein is organized into three distinct domains: an N-terminal transmembrane domain, a tandem-repeat neck domain and C-type lectin carbohydrate recognition domain. The extracellular region consisting of the C-type lectin and neck domains has a dual function as a pathogen recognition receptor and a cell adhesion receptor by binding carbohydrate ligands on the surface of microbes and endogenous cells. The neck region is important for homo-oligomerization which allows the receptor to bind multivalent ligands with high avidity. Variations in the number of 23 amino acid repeats in the neck domain of CD299 protein are common and have a significant impact on ligand binding ability. This gene is closely related in terms of both sequence and function to a neighboring gene (Gene ID 30835; often referred to as DC-SIGN or CD209). DC-SIGN and L-SIGN differ in their ligand-binding properties and distribution. Alternative splicing results in multiple variants.

Full-length extracellular domain of human CD299 cDNA (71 – 399aa, derived from BC110614) was constructed with codon optimization gene synthesis and expressed with a human alpha Fetal Protein N-terminal (AFPn) -His-TEV cleavage site Tag (217aa) fusion at its N-terminal 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: CD299 (CLEC4M; DC-SIGN2; L-SIGN; HP10347)
Accession Number: NP_055072
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, DTT and others.



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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

Zhang Y, et al., *DC - SIGNR by influencing the lncRNA HNRNPKP2 upregulates the expression of CXCR4 in gastric cancer liver metastasis*. Mol. Cancer 16 (1), 78 (2017)

Dos Santos A, et al., *Oligomerization domains in the glycan-binding receptors DC-SIGN and DC-SIGNR: Sequence variation and stability differences*. Protein Sci. 26 (2), 306-316 (2017)

Bashirova AA, et al., *A dendritic cell-specific intercellular adhesion molecule 3-grabbing nonintegrin (DC-SIGN)-related protein is highly expressed on human liver sinusoidal endothelial cells and promotes HIV-1 infection*. J. Exp. Med. 193 (6), 671-678 (2001)

Applications

1. May be used for studying CD299 mediated glycol-protein interaction for endothelial cell in various signaling pathway regulation in vitro with this recombinant CD299 protein either as soluble factor or as coating matrix protein.
2. May be used for CD299 protein-protein interaction assay.
3. Potential diagnostic protein, which may be used for cancer prognosis applications.
4. As native human CD299 immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Human **AFPn**- CD299 Fusion Protein Sequence (62.6 kD)

MTLHRNEYGIASILDSYQCTAEISLADLATIFFAQFVQEATYKEVSKMVKDALTAIEKPTGDEQ
SSGCLLENQLPAFLEELCHEKEILEKYGHSDCCSQSEEGRHNCFLAHKKPTPASIPLFQVPEPVT
SCEAYEEDRETFMNFYIYEIARRHPFLYAPTILLWAARYDKIIPSCCKAENAVECFQTKAATVT
KELRESSGGSHHHHHGSENLYFQGEFQVSKVPSSISQEQSRQDAIYQNLTLKAAVGEELSEKS
KLQEIYQELTQLKAAVGEPEKSKLQEIYQELTRLKAAVGEPEKSKLQEIYQELTWLKAAVGE
LPEKSKLQEIYQELTRLKAAVGEPEKSKLQEIYQELTELKAAVGEPEKSKLQEIYQELTQLK
AAVGEPLDQSKQQIYQELTDLKTAFERLCRHC PKDWTFFQGNCFMSNSQRNWHDSVTACQEV
RAQLVVIKTAEEQNFLQLQTSRSNRFSWMGLSDLNQE GTWQWVDGSP LSPSFQRYWNSGEPNNS
GNEDCAEFSGSGWNDNRCDVDNYWICKKPAACFRDE