



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CD319 Protein
Catalog Number: HRP- 3231
Manufacturer: LD Biopharma, Inc. USA

Introduction

Human SLAM family member 7 (SLAMF7, also named as CD319) gene encodes a self-ligand receptor of the signaling lymphocytic activation molecule (SLAM) family. SLAM receptors triggered by homo- or heterotypic cell-cell interactions are modulating the activation and differentiation of a wide variety of immune cells and thus are involved in the regulation and interconnection of both innate and adaptive immune response. CD319 activities are controlled by presence or absence of small cytoplasmic adapter proteins, SH2D1A/SAP and/or SH2D1B/EAT-2. The CD319 (Isoform 1) mediates NK cell activation through a SH2D1A-independent extracellular signal-regulated ERK-mediated pathway. It positively regulates NK cell functions by a mechanism dependent on phosphorylated SH2D1B. Downstream signaling implicates PLCG1, PLCG2 and PI3K. In addition to heterotypic NK cells-target cells interactions also homotypic interactions between NK cells may contribute to activation. However, in the absence of SH2D1B, CD319 inhibits NK cell function. It acts also inhibitory in T-cells. The CD319 may play a role in lymphocyte adhesion. In LPS-activated monocytes, CD319 negatively regulates production of pro-inflammatory cytokines.

Full-length extracellular domain of human CD319 cDNA (23 – 226aa) was constructed with codon optimization gene synthesis and expressed with a human Alpha Fetal protein at N-terminal (202aa as Tag) 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: CD319 (SLAMF7)
Accession Number: NP_067004.3
Species: Human
Size: 50µg / Vial
Composition: 1.0 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, DTT, sucrose & others.
Storage: In liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least two weeks.



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Key References

Elmaagacli AH, **Strong expression of SLAMF7 in natural killer/T-cell lymphoma and large granular lymphocyte leukemia - a prominent biomarker and potential target for anti-SLAMF7 antibody therapy.** *Leuk. Lymphoma* 60 (13), 3335-3338 (2019)

Ashour R, et al., **Expression analysis of two SLAM family receptors, SLAMF2 and SLAMF7, in patients with multiple myeloma.** *Int. J. Hematol.* 110 (1), 69-76 (2019)

O'Connell P, et al., **SLAMF7 Is a Critical Negative Regulator of IFN-alpha-Mediated CXCL10 Production in Chronic HIV Infection.** *J. Immunol.* 202 (1), 228-238 (2019)

Applications

1. May be used for in vitro CD319 mediated receptor interaction regulation study in vitro for NK, T cells or monocytes with this recombinant CD319 protein either as soluble factor or as coating matrix protein.
2. May be used for CD319 protein-protein interaction assay.
3. Potential Therapeutic / diagnostic protein, which may be used as immune-disease modulating target (such as anti-CD319 antibody).
4. As native human CD319 antigen for specific antibody production.

Quality Control:

1. Purity: > 92 % by SDS-PAGE.

Recombinant Human AFPn-CD319 Fusion Protein. (47.1 kD)

MTLHRNEYGIASILDSYQCTAEISLADLATIFFAQFVQEATYKEVSKMVKDALTAIEKPTGDEQ
SSGCLLENQLPAFLLEELCHEKEILEKYGHSDCCSQSEEGRHNCFLAHKKPTPASIPLFQVPEPVT
SCEAYEEDRETFMNKFIYEIARRHPFLYAPTILLWAARYDKIIPSCCKAENAVECFQTKAATVT
KELRESSGGSHHHHHGSENL~~YFQGG~~ESGPVKELVGSVGGAVTFPLKSKVKQVDSIVWTFNTP
LVTIQPEGGTIIIVTQNRNRERVDFFPDGGYSLKLSKLNKNDSGIYYVGIYSSSLQQPSTQEYVLH
VYEHLSKPKVTMGLQSNKNGTCVTNLTCCMEHGEEVDIYTWKALGQAANESHNGSILPISWRWG
ESDMTFICVARNPVSRNFSSPILARKLCEGAADDPDSSM