LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CD239 Protein
Catalog Number: HRP- 2614
Manufacturer: LD Biopharma, Inc. USA

Introduction

Human Basal Cell Adhesion Molecule (BCAM, also named as CD239) gene encodes Lutheran blood group glycoprotein, a member of the immunoglobulin superfamily and a receptor for the extracellular matrix protein: laminin. CD239 protein contains five extracellular immunoglobulin domains, a single transmembrane domain, and a short C-terminal cytoplasmic tail. This protein may play a role in epithelial cell cancer and in vaso-occlusion of red blood cells in sickle cell disease. Polymorphisms in this gene define some of the antigens in the Lutheran system and also the Auberger system. Inactivating variants of this gene result in the recessive Lutheran null phenotype, Lu(a-b-), of the Lutheran blood group. CD239 is widely expressed in various tissues, with highest in the pancreas and very low in brain. It closely associated with the basal layer of cells in epithelia and the endothelium of blood vessel walls.

Full-length extracellular domain of human CD239 cDNA (32-547aa) was constructed with codon optimization gene synthesis and expressed with a human Alpha Fetal protein at 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:	CT239 (BCAM; LU; MSK19)
Accession Number:	NP_005572
Species:	Human
Size:	40µg / Vial
Composition:	0.4 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, DTT and sucrose.
Storage:	In liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least two weeks.

Key References

Gils Roes, et a.,***Safety and clinical efficacy of BCAM CAR-T-cell therapy in multiple myeloma***. Journal of Hematology & Oncology 13, 164 (2020)

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Bartolini A, et al., ***BCAM and LAMA5 Mediate the Recognition between Tumor Cells and the Endothelium in the Metastatic Spreading of KRAS-Mutant Colorectal Cancer.*** Clin Cancer Res.Oct 1;22(19):4923-4933. (2016)

Mankelow TJ, et al,.***The Laminin 511/521-binding site on the Lutheran blood group glycoprotein is located at the flexible junction of Ig domains 2 and 3.*** Blood 110 (9), 3398-3406 (2007)

Applications

- May be used for in vitro CD239 mediated epithelia and the endothelium cell's activities regulation study with this recombinant CD239 protein either as soluble factor or as coating matrix protein.
- May be used for CD239 protein-protein interaction assay.
- CAT-T therapeutic target protein, which has been successfully used in treatment of disease, such as *multiple myeloma* .
- As native human CD239 antigen for its specific antibody production.

Quality Control:

1. Purity: > 90 % by SDS-PAGE.

Recombinant Human AFPn-CD239 Fusion Protein. (81.0 kD)

MTLHRNEYGIASILDSYQCTAEISLADLATIFFAQFVQEATYKEVSKMVKDALTAIEKPTGDEQ
SSGCLENQLPAFLEELCHEKEILEKYGHSDCCSQSEEGRHNCFLAHKKPTPASIPLFQVPEPVT
SCEAYEEDRETFMNKFIYEIARRHPFLYAPTILLWAARYDKIIPSCCKAENAVECFQTKAATVT
KELRESSGGS**HHHHHH**GSENLYFQGEFEVRLSVPPLVEVMRGKSVILDCTPTGTHDHYMLEWFL
TDRSGARPRLASAEMQGSELQVTMHDTRGRSPPYQLDSQGRLVLAEAQVGDERDYVCVVRAGAA
GTAEATARLNVFAKPEATEVSPNKGTLSVMEDSAQEIATCNSRNGNPAPKITWYRNGQRLEVPV
EMNPEGYMTSRTVREASGLLSLTSTLYLRLRKDDRDASFHCAAHYSLPEGRHGRLDSPTFHLTL
HYPTEHVQFWVGSPSTPAGWVREGDTVQLLCRGDGSPSPEYTLFRLQDEQEEVLNVNLEGNLTL
EGVTRGQSGTYGCRVEDYDAADDVQLSKTLELRVAYLDPLELSEGKVLSLPLNSSAVVNCSVHG
LPTPALRWTKDSTPLGDGPMLSLSSITFDSNGTYVCEASLPTVPVLSRTQNFTLLVQGSPELKT
AEIEPKADGSWREGDEVTLICSARGHPDPKLSWSQLGGSPAEPIPGRQGWVSSSLTLKVTSALS
RDGISCEASNPHGNKRHVFHFGTVSPQTSQA