LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CD59 Protein
Catalog Number: hRP-0528
Manufacturer: LD Biopharma, Inc.

Introduction

This gene encodes a cell surface glycoprotein that regulates complement-mediated cell lysis, and it is involved in lymphocyte signal transduction. This protein is a potent inhibitor of the complement membrane attack complex, whereby it binds complement C8 and/or C9 during the assembly of this complex, thereby inhibiting the incorporation of multiple copies of C9 into the complex, which is necessary for osmolytic pore formation. This protein also plays a role in signal transduction pathways in the activation of T cells. Mutations in this gene cause CD59 deficiency, a disease resulting in hemolytic anemia and thrombosis, and which causes cerebral infarction. Multiple alternatively spliced transcript variants, which encode the same protein, have been identified for this gene.

Recombinant human CD59 extracellular domain cDNA (26 - 102 aa) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal and expressed in E.coli as inclusion bodies. The final product was refolded using our unique "temperature shift inclusion body refolding" technology and chromatographically purified. Coating this recombinant protein at 5-10 ug / well (6 well plate) in a specific culture medium may be used for CD59 dependent pathway for cells activation/differentiation study in vitro.

Gene Symbol:	CD59 (IF5; EJ16; EJ30; EJ32; G344; 3A5)
Accession Number:	NP_000602
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, arginine, DTT and Glycerol.
Storage:	In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

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Key References

Li,B., et al., *The effects of CD59 gene as a target gene on breast cancer cells*. Cell. Immunol. 272 (1), 61-70 (2011)

Xu,W.D., et al., *Reduced expression of CD55 and CD59 on peripheral blood cells from systemic lupus erythematosus: profitable to diagnose some complications?* Cell. Immunol. 271 (1), 15 (2011)

Gandhi,J., et al., *Soluble CD59 expressed from an adenovirus in vivo is a potent inhibitor of complement deposition on murine liver vascular endothelium*. PLoS ONE 6 (6), E21621 (2011)

Petranka,J.G., et al., *Structure of the CD59-encoding gene: further evidence of a relationship to murine lymphocyte antigen Ly-6 protein*. Proc. Natl. Acad. Sci. U.S.A. 89 (17), 7876-7879 (1992)

Applications

1. Protein can be used as coating matrix protein for CD59 mediated cell functions and differentiation regulation study in vitro.
2. As potential disease diagnosis biomarker protein for breast cancer or systemic lupus.
3. As antigen for specific antibody production.

Quality Control

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

Suggested Coating Protocol

Standard coating was performed using 1ml PBS / well, which contains 5-10 ug protein / well) for incubating at 4°C overnight. After coating, remove PBS solution, the plate is ready for cell culture study.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHHGNLYFQGGEFALVQCYNCPNPTADCKTAVNCSSDFDACLITKAGL
QVYNKCWKFEHCNFNDVTTRLRENELTYYCCRKDLCNFNEQLEN