



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human ASGR1 Protein
Catalog Number: hRP-1922
Manufacturer: LD Biopharma, Inc.

Introduction

This gene encodes a subunit of the asialoglycoprotein receptor. This receptor is a transmembrane protein that plays a critical role in serum glycoprotein homeostasis by mediating the endocytosis and lysosomal degradation of glycoproteins with exposed terminal galactose or N-acetylgalactosamine residues. The asialoglycoprotein receptor may facilitate hepatic infection by multiple viruses including hepatitis B, and is also a target for liver-specific drug delivery. The asialoglycoprotein receptor is a hetero-oligomeric protein composed of major and minor subunits, which are encoded by different genes. The protein encoded by ASGR1 gene is the more abundant major subunit. Recent data indicated that ASGR1 variant (Haploinsufficiency) is associated with reduced levels of non-HDL cholesterol and a reduced risk of coronary artery disease.

Full-length extracellular domain of human ASGR1 cDNA (62 – 291 aa) was constructed with codon optimization and expressed with N-terminal T7-His-TEV cleavage site Tag (29aa) fusion. This protein was 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: ASGR1 (CLEC4H1; HL-1; ASGPR)
Accession Number: NP_001662
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 and DTT.
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

P.Nioi, et al., *Variant ASGR1 Associated with a Reduced Risk of Coronary Artery Disease*. The New England Journal of Medicine. DOI: 10.1056/NEJMoa1508419. (2016)

Shi B, et al., *Expression of asialoglycoprotein receptor 1 in human hepatocellular carcinoma*. J. Histochem. Cytochem. 61 (12), 901-909 (2013)

Liu J, et al., *A new splice variant of the major subunit of human asialoglycoprotein receptor encodes a secreted form in hepatocytes* PLoS ONE 5 (9), E12934 (2010)

Sun P, et al., *Expression pattern of asialoglycoprotein receptor in human testis*. Cell Tissue Res. 352 (3), 761-768 (2013)

Applications

1. May be used for in vitro ASGR1 mediated desialylated protein endocytosis and lysosomal degradation pathway regulation study for human liver cells with this protein either as soluble factor or as coating matrix protein.
2. May be used for protein-protein interaction mapping.
3. Potential therapeutic protein for drug development, which may reduce atherosclerotic diseases.
4. As immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGRHHHHHHENLYFQGGEFQNSQLQEELRGLRETFSNFTASTEAVKGLSTQGG
NVGRKMKSLSESQLEKQKDLSEDHSSLLLHVKQFVSDLRSLSCQMAALQGNGSERTCCPVNWVE
HERSCYWF SRSGKAWADADNYCRLEDAHLVVVTSWEEQKFVQHHIGPVNTWMGLHDQNGPWKWW
DGTDYETGFKNWRPEQPDDWYGHGLGGGEDCAHF'TDDGRWNDDVCQRPYRWVC'ETELDKASQEP
PLL