

PRODUCT INFORMATION



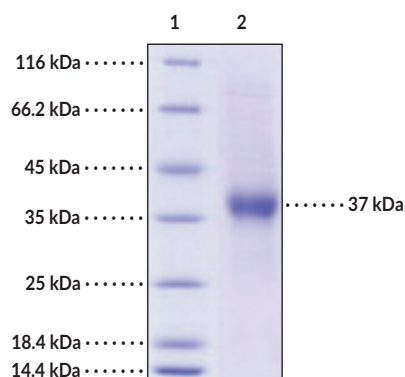
Asialoglycoprotein Receptor 1 Extracellular Domain (human, recombinant) Item No. 38064

Overview and Properties

Synonyms:	ASGPR1, ASGR1, C-type Lectin Domain Family 4 Member H1, CLEC4H1, Hepatic Lectin H1, HL-1
Source:	Recombinant human C-terminal His-tagged asialoglycoprotein receptor 1 extracellular domain expressed in HEK293 cells
Amino Acids:	62-291
Uniprot No.:	P07306
Molecular Weight:	28.8 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥90% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing:	<1.0 EU/μg, determined by the LAL endotoxin assay

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers

Lane 2: Asialoglycoprotein Receptor 1 Extracellular Domain

SDS-PAGE Analysis of Asialoglycoprotein Receptor 1 Extracellular Domain. This protein has a calculated molecular weight of 28.8 kDa. It has an apparent molecular weight of approximately 37 kDa by SDS-PAGE under reducing conditions due to glycosylation.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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Description

Asialoglycoprotein receptor 1 is a calcium-dependent C-type lectin receptor.¹ It is composed of a carbohydrate recognition domain, which primarily recognizes galactosides such as D-galactose and N-acetyl-D-galactosamine (GalNAc), stalk region, transmembrane domain, and cytoplasmic domain. Asialoglycoprotein receptor 1 is expressed in hepatocytes and alternative splicing produces both long and short isoforms.² The long isoform localizes to the cell membrane, while the short isoform exists as a soluble form that is both secreted and found in the cytoplasm. The asialoglycoprotein receptor is a trimer that is commonly formed by two H1 subunits and one H2 subunit.¹ It is involved in the clearance of desialylated serum glycoproteins and hepatotropic virus entry *via* endocytosis. Ectopic expression of the gene encoding asialoglycoprotein receptor 1 (ASGR1) increases binding of hepatitis E virus to cells *in vitro*.³ Knockdown of ASGR1 increases survival and decreases liver injury and plasma TNF- α and IL-1 β levels in a mouse model of sepsis.⁴ Decreased protein levels of asialoglycoprotein receptor 1 negatively correlate with hepatocellular carcinoma tumor grade.⁵ The asialoglycoprotein receptor has been used as a target of galactosylated drug conjugates and various lipid-based drug delivery (LBDD) platforms, including lipid nanoparticles (LNPs), liposomes, and micelles, for therapeutic and imaging applications.¹ Cayman's Asialoglycoprotein Receptor 1 Extracellular Domain (human, recombinant) protein consists of 246 amino acids and a calculated molecular weight of 28.8 kDa. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is approximately 37 kDa due to glycosylation.

References

1. Das, S., Kudale, P., Dandekar, P., *et al.* Asialoglycoprotein receptor and targeting strategies. *Targeted intracellular drug delivery by receptor mediated endocytosis*, Devarajan, P., Dandekar, P., and D'Souza, A.A., editors, 1st edition, Springer (2019).
2. Liu, J., Hu, B., Yang, Y., *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).
3. Zhang, L., Tian, Y., Wen, Z., *et al.* Asialoglycoprotein receptor facilitates infection of PLC/PRF/5 cells by HEV through interaction with ORF2. *J. Med. Virol.* **88**(12), 2186-2195 (2016).
4. Shi, R., Wang, J., Zhang, Z., *et al.* ASGR1 promotes liver injury in sepsis by modulating monocyte-to-macrophage differentiation via NF- κ B/ATF5 pathway. *Life Sci.* **315**, 121339 (2023).
5. Shi, B., Abrams, M., and Sepp-Lorenzino, L. Expression of asialoglycoprotein receptor 1 in human hepatocellular carcinoma. *J. Histochem. Cytochem.* **61**(12), 901-909 (2013).

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