

# PRODUCT INFORMATION

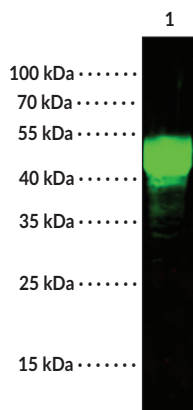


## Asialoglycoprotein Receptor 1 Rabbit Monoclonal Antibody (Clone 021) Item No. 38103

### Overview and Properties

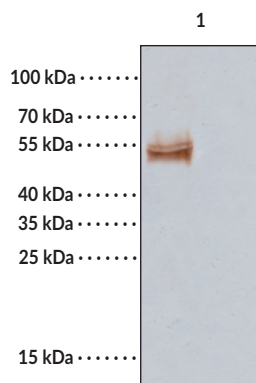
<b>Contents:</b>	This vial contains 50, 100 µl, or 1 ml of protein A-affinity purified monoclonal antibody.
<b>Synonyms:</b>	ASGPR1, ASGR1, C-type Lectin Domain Family 4 Member H1, CLEC4H1, Hepatic Lectin H1, HL-1
<b>Immunogen:</b>	Recombinant human asialoglycoprotein receptor 1
<b>Cross Reactivity:</b>	(+) Asialoglycoprotein receptor 1
<b>Species Reactivity:</b>	(+) Human; other species not tested
<b>Molecular Weight:</b>	33 kDa
<b>Uniprot No.:</b>	P07306
<b>Form:</b>	Liquid
<b>Storage:</b>	-80°C (as supplied)
<b>Stability:</b>	≥1 year
<b>Storage Buffer:</b>	0.2 µm filtered solution in PBS
<b>Clone:</b>	021
<b>Host:</b>	Rabbit
<b>Isotype:</b>	IgG
<b>Applications:</b>	ELISA (capture), Immunoprecipitation (IP), and Western blot (WB); the recommended starting dilution is 1:250-1:2,000 for ELISA (capture) and 1:500-1:2,000 for WB. The recommended concentration is 1-4 µl/mg of lysate for IP. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

### Images



Lane 1: HepG2 whole cell lysate (30 µg)

WB of Asialoglycoprotein Receptor 1 Rabbit Monoclonal Antibody (Clone 021) at 1:500 dilution. A rabbit IgG Dylight™ 800 antibody was used as a secondary antibody. Performed under reducing conditions.



Lane 1: 0.5 mg of HepG2 whole cell lysate immunoprecipitated using 2 µl Asialoglycoprotein Receptor 1 Rabbit Monoclonal Antibody (Clone 021) and 15 µl of 50% protein G agarose

WB using Asialoglycoprotein Receptor 1 Rabbit Monoclonal Antibody (Clone 021) at a 1:100 dilution.

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.

WARRANTY AND LIMITATION OF REMEDY  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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CAYMAN CHEMICAL  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
FAX: [734] 971-3640  
CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM

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## Description

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Asialoglycoprotein receptor 1 is a calcium-dependent C-type lectin receptor.<sup>1</sup> 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.<sup>2</sup> 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.<sup>1</sup> 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*.<sup>3</sup> Knockdown of *ASGR1* increases survival and decreases liver injury and plasma TNF- $\alpha$  and IL-1 $\beta$  levels in a mouse model of sepsis.<sup>4</sup> Decreased protein levels of asialoglycoprotein receptor 1 negatively correlate with hepatocellular carcinoma tumor grade.<sup>5</sup> 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.<sup>1</sup> Cayman's Asialoglycoprotein Receptor 1 Rabbit Monoclonal Antibody (Clone 012) can be used for ELISA (capture), immunoprecipitation (IP), and Western blot (WB) applications. The antibody recognizes asialoglycoprotein receptor 1 at 33 kDa from human samples. However, due to lipidation, glycation, and phosphorylation the antibody may recognize asialoglycoprotein receptor 1 at approximately 45-50 kDa.

## References

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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- $\kappa$ 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).

CAYMAN CHEMICAL  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
FAX: [734] 971-3640  
CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM