abcam

ab256509

Anti-Asialoglycoprotein Receptor 1/HL-1 antibody [EPR22642-17] - BSA and Azide free

Anti-Asialoglycoprotein Receptor 1/HL-1 antibody [EPR22642-17] - BSA and Azide free (ab256509) is a rabbit recombinant monoclonal antibody for **Western Blot, Flow Cytometry, IP, IHC-P, ICC/IF**. Suitable for **Human**.

- BSA, sodium azide, and glycerol-free for easy conjugation
- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR22642-17
Purification technique	Affinity purification Protein A
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Mouse
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information ASGR1

Function	Transmembrane protein predominantly expressed on hepatocytes that plays a key role in endocytosis of plasma glycoproteins that lack terminal sialic acid residues. Specifically recognizes terminal galactose and N-acetylgalactosamine residues, facilitating the clearance of desialylated glycoproteins from circulation. Plays thereby a role in a variety of physiological processes, such as removal of desialylated platelets, elimination of activated lymphocytes and maintenance of serum glycoprotein homeostasis (PubMed:25485912). Plays a role in the removal of desialylated platelets by activating a feedback loop regulating thrombopoietin (TPO) expression via the JAK2-STAT3 signaling pathway (PubMed:25485912). Contributes also to recognition and elimination of activated lymphocytes by hepatocytes that can act as cytotoxic effectors (PubMed:21656538). May also play a physiological role in the regulatory network of lipid homeostasis (By similarity). Upon ligand binding, the receptor-ligand complex is internalized and trafficked to a sorting organelle, where dissociation occurs. The receptor is then recycled back to the cell surface. (Microbial infection) Plays an essential role in ACE2-independent SARS-CoV-2 entry by acting as alternate receptor.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

What is this antibody validated in?
Anti-Asialoglycoprotein Receptor 1/HL-1 antibody [EPR22642-17] - BSA and Azide free (ab256509) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human samples.

What is the molecular weight of Asialoglycoprotein Receptor 1/HL-1?
Anti-Asialoglycoprotein Receptor 1/HL-1 [EPR22642-17] - BSA and Azide free (ab256509) specifically detects a band for Asialoglycoprotein Receptor 1/HL-1 (UniProt: P07306) at a molecular weight of 33kDa.

Other related products
We have a range of other formats of antibody clone [EPR22642-17] also available for your convenience: ab254262, Carrier free - ab256509, Alexa Fluor® 488 - ab315184, Alexa Fluor® 647 - ab315185, PE - ab322528, HRP - ab323727

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The Asialoglycoprotein Receptor 1 (ASGR1) also known as ASGPR 1 or asialoglycoprotein receptor is a well-known protein with a critical role in the mechanism of recognizing and binding to asialoglycoproteins. It has a molecular mass of approximately 46 kDa. ASGR1 is expressed mostly in liver cells specifically hepatocytes. The unique characteristic of this receptor is its lectin-like nature which allows it to bind to specific sugar moieties present on desialylated glycoproteins. Through receptor-mediated endocytosis it facilitates their removal from the bloodstream.
Biological function summary	The function of ASGR1 extends significantly. It operates as part of the asialoglycoprotein receptor complex interfacing directly with the ligand proteins to mediate endocytosis. This process is essential in most mammalian systems for maintaining serum glycoprotein homeostasis. By clearing desialylated glycoproteins from circulation ASGR1 helps prevent potential adverse effects these molecules might cause like immune activation or interference with other biological functions.
Pathways	ASGR1 is integral to glycoprotein clearance pathways. It actively participates in the hepatic clearance pathway ensuring the regulation of serum glycoprotein levels. The removal of asialoglycoproteins involves interactions with several other hepatic proteins such as GalNAc transferase which can further facilitate the remodeling of glycoconjugates. Understanding these interactions is key for comprehending how the liver maintains overall metabolic balance.
Associated diseases and disorders	ASGR1 is linked to certain liver-related conditions. Dysfunction or aberrant expression of the ASGR1 receptor can relate to elevated levels of serum

glycoproteins which might be observed in liver cirrhosis. Elevated glycoproteins can exacerbate the progression of liver diseases. Furthermore ASGR1 protein interaction with viral glycoproteins has implications in hepatitis infections where it may inadvertently facilitate viral entry into hepatocytes affecting liver function and contributing to disease pathology.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

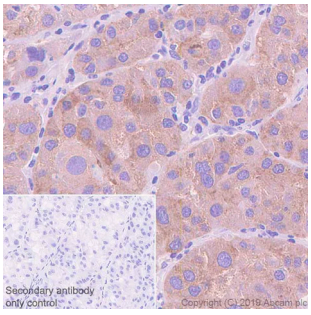
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

8 product images

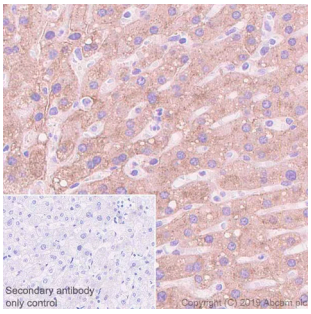


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Asialoglycoprotein Receptor 1/HL-1 antibody [EPR22642-17] - BSA and Azide free (ab256509)

Immunohistochemical analysis of paraffin-embedded Human liver cancer tissue labeling Asialoglycoprotein Receptor 1/HL-1 antibody with ab254262 at 1/1000 dilution (0.5 µg/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining in human liver cancer (PMID:23979840,26422581,27241665) is observed.
The section was incubated with ab254262 for 15 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab254262).



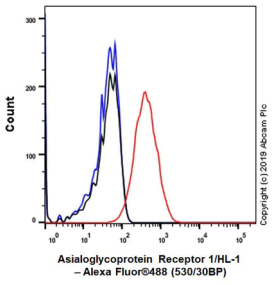
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Asialoglycoprotein Receptor 1/HL-1 antibody [EPR22642-17] - BSA and Azide free (ab256509)

Asialoglycoprotein Receptor 1/HL-1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Asialoglycoprotein Receptor 1/HL-1 antibody

Immunohistochemical analysis of paraffin-embedded Human liver tissue labeling Asialoglycoprotein Receptor 1/HL-1 antibody with ab254262 at 1/1000 dilution (0.5 µg/ml) followed by a Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining in human liver (PMID:23979840, 26422581, 27241665) is observed.
The section was incubated with ab254262 for 15 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

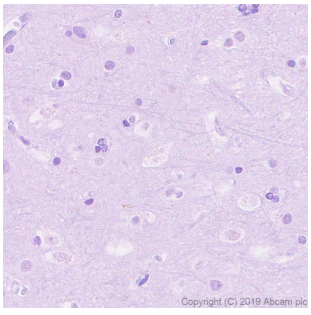
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab254262).



Flow Cytometry - Anti-Asialoglycoprotein Receptor 1/HL-1 antibody [EPR22642-17] - BSA and Azide free (ab256509)

Asialoglycoprotein Receptor 1/HL-1 Flow Cytometry staining using rabbit Anti-Asialoglycoprotein Receptor 1/HL-1 antibody

Flow cytometric analysis of HepG2 (Human hepatocellular carcinoma epithelial cell line) cells labelling Asialoglycoprotein Receptor 1/HL-1 antibody with ab254262 at 1/500 dilution (Red) compared with a Rabbit monoclonal IgG (ab172730, Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody. Gated on viable cells.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab254262).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Asialoglycoprotein Receptor 1/HL-1 antibody [EPR22642-17] - BSA and Azide free (ab256509)

Asialoglycoprotein Receptor 1/HL-1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Asialoglycoprotein Receptor 1/HL-1 antibody

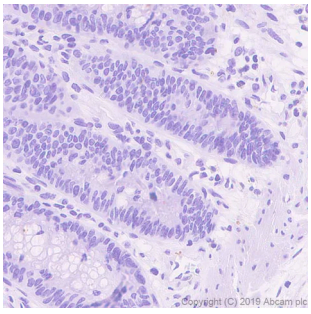
Negative control: No staining in human cerebrum (PMID:23979840)
Immunohistochemical analysis of paraffin-embedded Human cerebrum tissue labeling Asialoglycoprotein Receptor 1/HL-1 antibody with ab254262 at 1/1000 dilution (0.5 µg/ml)

followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

The section was incubated with ab254262 for 15 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab254262).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Asialoglycoprotein Receptor 1/HL-1 antibody [EPR22642-17] - BSA and Azide free (ab256509)

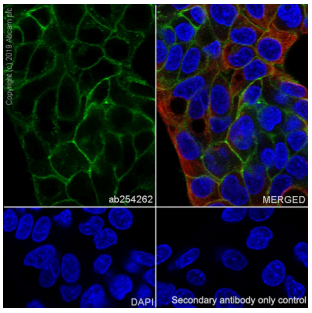
Asialoglycoprotein Receptor 1/HL-1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Asialoglycoprotein Receptor 1/HL-1 antibody

Negative control: No staining in human colon (PMID:23979840).
Immunohistochemical analysis of paraffin-embedded Human colon tissue labeling Asialoglycoprotein Receptor 1/HL-1 antibody with ab254262 at 1/1000 dilution (0.5 µg/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

The section was incubated with ab254262 for 15 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab254262).

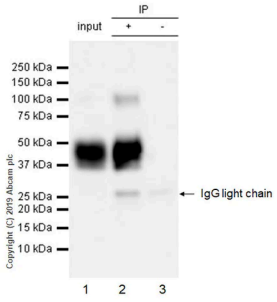


Immunocytochemistry/ Immunofluorescence - Anti-Asialoglycoprotein Receptor 1/HL-1 antibody [EPR22642-17] - BSA and Azide free (ab256509)

Asialoglycoprotein Receptor 1/HL-1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Asialoglycoprotein Receptor 1/HL-1 antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HepG2 (human hepatocellular carcinoma epithelial cell line) cells labelling Asialoglycoprotein Receptor 1/HL-1 antibody with ab254262 at 1/100 dilution, followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary antibody at 1/1000 dilution (Green). Confocal image showing membranous and weak cytoplasmic staining in HepG2 cellsis observed. ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The Nuclear counterstain was DAPI (Blue).
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ab150077 AlexaFluor®488 Goat anti-Rabbit secondary at 1/1000 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab254262).



Immunoprecipitation - Anti-Asialoglycoprotein Receptor 1/HL-1 antibody [EPR22642-17] - BSA and Azide free (ab256509)

Asialoglycoprotein Receptor 1/HL-1 antibody was immunoprecipitated from 0.35 mg HepG2 (Human hepatocellular carcinoma epithelial cell) whole cell lysate 10µg with ab254262 at 1/30 dilution (2µg in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab254262 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366) was used as the secondary antibody at 1/5000 dilution.
Lane 1: HepG2 (Human hepatocellular carcinoma epithelial cell) whole cell lysate 10µg

Lane 2: ab254262 IP in HepG2 whole cell lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab254262 in HepG2 whole cell lysate.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 7 seconds.

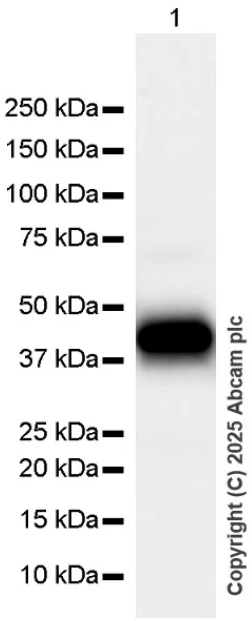
The band at around 100kDa is described as dimers (PMID: 7663158).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab254262).

All lanes:
Immunoprecipitation - Anti-Asialoglycoprotein Receptor 1/HL-1 antibody [EPR22642-17] (ab254262)

Predicted band size: 33 kDa

Observed band size: 40-50 kDa



Western blot - Anti-Asialoglycoprotein Receptor 1/HL-1 antibody [EPR22642-17] - BSA and Azide free (ab256509)

Asialoglycoprotein Receptor 1/HL-1 Western blot staining of Mouse liver tissue lysate using rabbit Anti-Asialoglycoprotein Receptor 1/HL-1 antibody

This data was developed using the same antibody clone in a different buffer formulation (ab128895).
Blocking and diluting buffer : 5% NFDM /TBST

All lanes:
Western blot - Anti-Asialoglycoprotein Receptor 1/HL-1 antibody [EPR22642-17] (ab254262) at 1/1000 dilution

All lanes:
Mouse liver tissue lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 40-50 kDa

Exposure time: 3.25s

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.