abcam

ab315184

Alexa Fluor® 488 Anti-Asialoglycoprotein Receptor 1/HL-1 antibody [EPR22642-17]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 488
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR22642-17
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/100
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Flow Cyt

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
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 duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle, Store in the dark

Notes

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.

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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

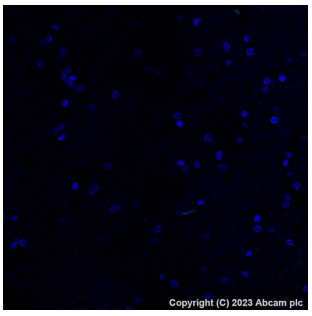
We do not recommend this combination. It is not covered by our product promise.

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.

4 product images



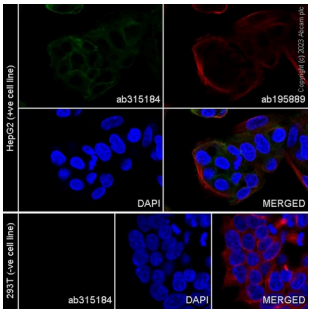
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Alexa Fluor® 488 Anti-Asialoglycoprotein Receptor 1/HL-1 antibody [EPR22642-17] (ab315184)

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

Immunohistochemical analysis of paraffin-embedded Human cerebrum tissue labeling Asialoglycoprotein Receptor 1/HL-1 with ab315184 at 1/100 (5.0 ug/ml).

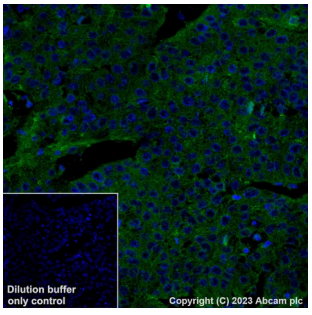
Negative control: no staining on human cerebrum. The section was incubated with ab315184 for 60 mins at room temperature (shown in green). Nuclear DNA was labeled with DAPI (shown in blue). The section was then mounted using Fluoromount®. The immunostaining was performed on a Leica Biosystems BOND RX instrument. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 40 mins.



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-Asialoglycoprotein Receptor 1/HL-1 antibody [EPR22642-17] (ab315184)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HepG2 (human hepatocellular carcinoma epithelial cell) cells labelling Asialoglycoprotein Receptor 1/HL-1 with ab315184 at 1/50 (10.0 ug/ml) dilution. Confocal image showing cytoplasmic and membranous staining in HepG2 cells. Negative control: 293T (https://doi.org/10.1101/2022.01.15.476426). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue).

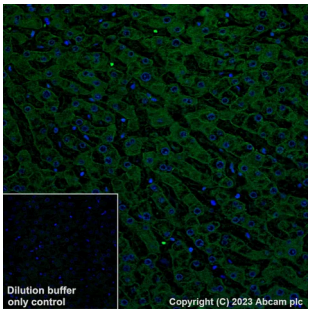


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Alexa Fluor® 488 Anti-Asialoglycoprotein Receptor 1/HL-1 antibody [EPR22642-17] (ab315184)

Immunohistochemical analysis of paraffin-embedded Human liver cancer tissue labeling Asialoglycoprotein Receptor 1/HL-1 with ab315184 at 1/100 (5.0 ug/ml).

Positive staining in human liver cancer. The section was incubated with ab315184 for 60 mins at room temperature (shown in green). Nuclear DNA was labeled with DAPI (shown in blue). The section was then mounted using Fluoromount®. The immunostaining was performed on a Leica Biosystems BOND RX instrument. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Alexa Fluor® 488 Anti-Asialoglycoprotein Receptor 1/HL-1 antibody [EPR22642-17] (ab315184)

Immunohistochemical analysis of paraffin-embedded Human liver tissue labeling Asialoglycoprotein Receptor 1/HL-1 with ab315184 at 1/100 (5.0 ug/ml).

Positive staining in human liver. The section was incubated with ab315184 for 60 mins at room temperature (shown in green). Nuclear DNA was labeled with DAPI (shown in blue). The section was then mounted using Fluoromount®. The immunostaining was performed on a Leica Biosystems BOND RX instrument. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 40 mins.

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