abcam

ab255731

Anti-MASP1 antibody [EPR22804-163]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR22804-163
Purification technique	Affinity purification Protein A
Concentration	0.578 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-Fr

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information MASP1

Function

Precursor of a serum protease that activates the complement pathway of the complement system, a cascade of proteins that leads to phagocytosis and breakdown of pathogens and signaling that strengthens the adaptive immune system. Isoform MASP-1. Serine protease that activates the lectin pathway of the complement system, a cascade of proteins that leads to phagocytosis and breakdown of pathogens and signaling that strengthens the adaptive immune system (PubMed:10946292, PubMed:11527969, PubMed:12538697, PubMed:22691502, PubMed:22966085, PubMed:9087411). The lectin complement system is activated following association of lectins, such as MBL2, FCN1, FCN2 or FCN3, to carbohydrates on the pathogen surface (PubMed:22854970, PubMed:22966085, PubMed:23386610, PubMed:9087411). Following autoproteolytic processing in response to lectin-binding to pathogen carbohydrates, catalyzes cleavage and activation of MASP2, the next component of the lectin complement pathway (PubMed:22691502, PubMed:22966085, PubMed:23386610). Isoform MASP-3. Serine protease that activates the alternative pathway of the complement system, a cascade of proteins that leads to phagocytosis and breakdown of pathogens and signaling that strengthens the adaptive immune system (PubMed:20038603, PubMed:23792966, PubMed:27535802). The alternative complement pathway acts as an amplification loop that enhances other complement pathways (PubMed:27535802). Isoform MASP-3 specifically catalyzes cleavage and activation of factor D (CFD), the protease that initiates the alternative complement pathway (PubMed:20038603, PubMed:27535802).

Storage

Shipped at conditions	Conditional Ambient
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

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.

Supplementary info

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

Activity summary	The MASP1 protein also known as mannan-binding lectin serine protease 1 or MASP-1 is a serine protease with a mass of approximately 76 kDa. It is mainly expressed in the liver and is secreted into the blood. MASP1 is an important component of the lectin pathway of the complement system. This protein is an enzyme that circulates in the blood in an inactive form and becomes active when it binds to pathogen surfaces linked to mannose-binding lectins or ficolins.
Biological function summary	MASP1 plays a vital role in the innate immune system by activating the complement cascade. MASP1 works as part of a complex made up of pattern recognition molecules and other proteases. On binding to pathogens the complex undergoes conformational changes that activate MASP1. This activation leads to the cleavage of downstream substrates including MASP-2 and complement component C4 triggering a series of enzymatic reactions that enhance the pathogen clearance by opsonization and lysis.
Pathways	MASP1 is heavily involved in the lectin pathway one of the three activation pathways of the complement system. It shares functional ties with MASP-2 which continues the cascade after MASP1 activates the pathway. While the lectin pathway runs parallel to the classical pathway it is distinguished by the nature of its

	initiating molecules that recognize carbohydrate patterns on pathogen surfaces without needing antibodies. MASP1's role is critical in facilitating the initial steps of this process which eventually leads to the activation of the terminal complement pathway components.
Associated diseases and disorders	MASP1 shows connections to immune-related conditions such as systemic lupus erythematosus (SLE) and infectious diseases. Its dysregulation or deficiency can impact the complement system leading to immune complex diseases like SLE due to the failure in clearing immune complexes effectively. Furthermore MASP1's association with MASP-2 also makes it relevant in studies focused on lectin pathway deficiencies that result in increased susceptibility to infections highlighting its significance in maintaining host immunity.

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

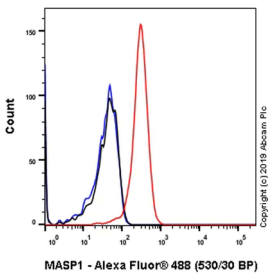
We do not recommend this combination. It is not covered by our product promise.

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.

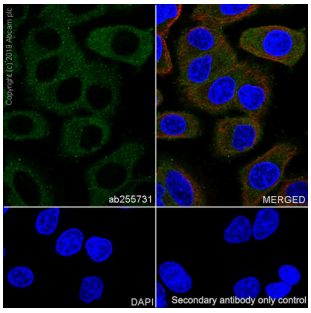
4 product images



Flow Cytometry (Intracellular) - Anti-MASP1 antibody [EPR22804-163] (ab255731)

MASP1 Flow Cytometry (Intracellular) staining using rabbit Anti-MASP1 antibody

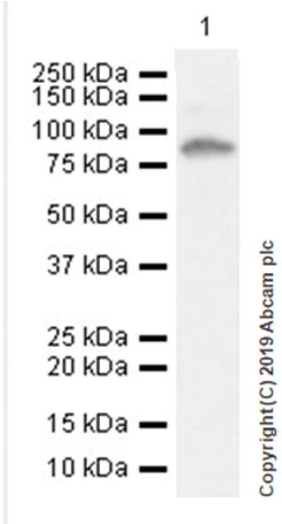
Intracellular flow cytometric analysis of 4% paraformaldehyde fixed, 90% methanol permeabilized HepG2 (human hepatocellular carcinoma epithelial cell) cells labelling MASP1 with ab255731 at 1/500 dilution (Red) compared with a Rabbit monoclonal IgG (ab172730, Black) isotype control and an unlabelled 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.



Immunocytochemistry/ Immunofluorescence - Anti-MASP1 antibody [EPR22804-163] (ab255731)

MASP1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MASP1 antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized A549 (human lung carcinoma epithelial cell) cells labelling MASP1 with ab255731 at 1/50 dilution, followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary antibody at 1/1000 dilution (Green). Confocal image showing cytoplasmic staining in A549 cells is 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.



Western blot - Anti-MASP1 antibody [EPR22804-163] (ab255731)

MASP1 Western blot staining of Human plasma using rabbit Anti-MASP1 antibody

The molecular weight observed is consistent with what has been described in the literature (PMID: 24472859, 27232184).
Blocking/diluting buffer and concentration: 5% NFDM/TBST

All lanes:
Western blot - Anti-MASP1 antibody [EPR22804-163] (ab255731) at 1/1000 dilution

All lanes:
Human plasma at 20 µg

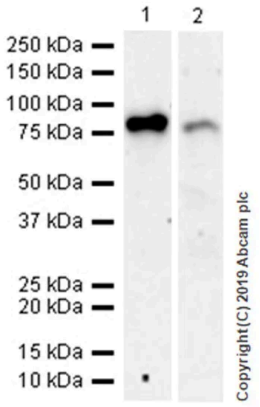
Secondary

All lanes:
Western blot - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/1000 dilution

Predicted band size: 79 kDa

Observed band size: 90 kDa

Exposure time: 37s



Western blot - Anti-MASP1 antibody [EPR22804-163] (ab255731)

Blocking and dilution buffer: 5% NFDM/TBST.
The molecular weight observed is consistent with what has been described in the literature (PMID: 24472859, 27232184).

All lanes:
Western blot - Anti-MASP1 antibody [EPR22804-163] (ab255731) at 1/1000 dilution

Lane 1:
HepG2 (human hepatocellular carcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
A549 (human lung carcinoma epithelial cell) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 79 kDa

Observed band size: 90 kDa

Exposure time: 3min

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