abcam

ab271896

Anti-alpha 1 Fetoprotein antibody [EPAFP61] - BSA and Azide free

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	EPAFP61
Purification technique	Affinity purification Protein A
Concentration	1.037 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-

Notes	Heat up to 98°C, below boiling, and then let cool for 10-20 min.

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information AFP

Function	Binds copper, nickel, and fatty acids as well as, and bilirubin less well than, serum albumin. Only a small percentage (less than 2%) of the human AFP shows estrogen-binding properties.

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

ab271896 is the carrier-free version of ab133617.

Species reactivity

Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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	Alpha-fetoprotein also known as alpha 1-fetoprotein or AFP is a glycoprotein composed of a single polypeptide chain with a molecular mass of approximately 69 kDa. AFP is primarily expressed in the fetal liver yolk sac and gastrointestinal tract during embryonic development. In adults the expression of AFP is limited and occurs mainly in the liver. The protein belongs to the albuminoid gene family and shares structural similarity with serum albumin contributing to its role in fetal serum transport.
Biological function summary	Alpha-fetoprotein functions as a fetal plasma protein with roles similar to serum albumin including the binding and transport of ligands such as bilirubin and fatty acids. It does not form part of any larger protein complex but is significant in modulating fetal immune tolerance. In the fetal environment AFP helps protect cells from maternal immune attacks by binding to estrogens and other growth-modulating factors. Its function during pregnancy is critical for maintaining homeostasis and ensuring the fetus's viability.
Pathways	Alpha 1-fetoprotein plays a role in several important biological pathways related to cellular growth and immune response modulation. One such pathway involves regulation of cell proliferation and differentiation in the developing liver. AFP interacts with cellular receptors that influence these processes. Additionally it plays a part in immune pathways interacting with elements that control immune overlooking to fetal antigens hence being linked to both hepatic and immune system proteins like albumin and estrogen receptors.
Associated diseases and disorders	High levels of alpha-fetoprotein are linked to hepatocellular carcinoma and germ cell tumors such as yolk sac tumor. AFP serves as a tumor marker in these conditions aiding in both diagnosis and monitoring treatment response. In liver cancer AFP levels often correlate with tumor burden while in germ cell tumors it connects to proteins like beta-human chorionic gonadotropin (beta-hCG). Both markers are used together in clinical settings to provide insights into tumor progression and therapeutic efficacy.

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

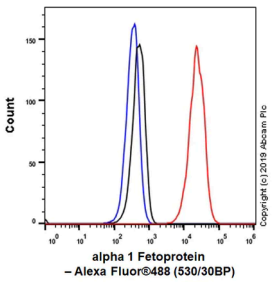
We do not recommend this combination. It is not covered by our product promise.

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.

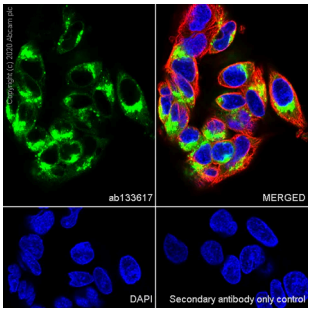
5 product images



Flow Cytometry (Intracellular) - Anti-alpha 1 Fetoprotein antibody [EPAFP61] - BSA and Azide free (ab271896)

Alpha 1 Fetoprotein Flow Cytometry (Intracellular) staining using rabbit Anti-alpha 1 Fetoprotein antibody

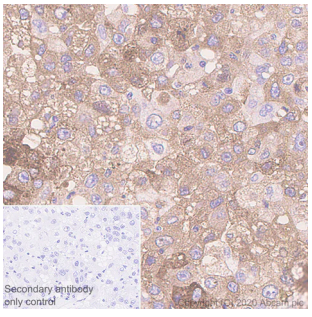
This data was developed using ab133617, the same antibody clone in a different buffer formulation. Intracellular Flow Cytometry analysis of HepG2 (Human hepatocellular carcinoma epithelial cell) cells labeling alpha 1 Fetoprotein with Purified ab133617 at 1/20 dilution (10 µg/mL) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunocytochemistry/ Immunofluorescence - Anti-alpha 1 Fetoprotein antibody [EPAFP61] - BSA and Azide free (ab271896)

Alpha 1 Fetoprotein Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-alpha 1 Fetoprotein antibody

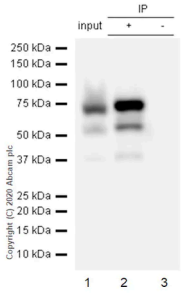
This data was developed using ab133617, the same antibody clone in a different buffer formulation.
Immunocytochemistry analysis of HepG2 (Human hepatocellular carcinoma epithelial cell) cells labeling alpha 1 Fetoprotein with Purified ab133617 at 1/250 dilution (0.52 µg/mL). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 dilution (2.5 µg/mL). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1/1000 dilution (2 µg/mL). DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-alpha 1 Fetoprotein antibody [EPAFP61] - BSA and Azide free (ab271896)

Alpha 1 Fetoprotein Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-alpha 1 Fetoprotein antibody

This data was developed using ab133617, the same antibody clone in a different buffer formulation.
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human liver cancer tissue sections labeling alpha 1 Fetoprotein with Purified ab133617 at 1/100 dilution (1.3 µg/mL). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 1 (pH 6.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.

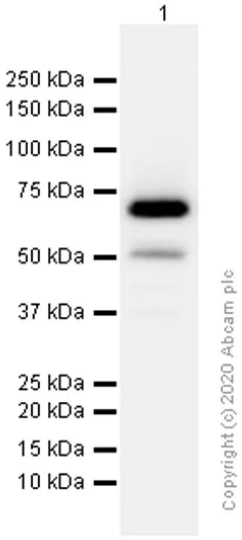


Immunoprecipitation - Anti-alpha 1 Fetoprotein antibody [EPAFP61] - BSA and Azide free (ab271896)

This data was developed using ab133617, the same antibody clone in a different buffer formulation.
Purified ab133617 at 1/20 dilution (0.5µg) immunoprecipitating alpha 1 Fetoprotein in HepG2 whole cell lysate.
Lane 1 (input): HepG2 (Human hepatocellular carcinoma epithelial cell) whole cell lysate 10µg
Lane 2 (+): ab133617 + HepG2 whole cell lysate.
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab133617 in HepG2 whole cell lysate.
VeriBlot for IP Detection Reagent (HRP) (ab131366) (1/1000 dilution) was used for Western blotting.
Blocking Buffer and concentration: 5% NFDM/TBST.
Diluting buffer and concentration: 5% NFDM/TBST.
Observed band size: 68 kDa
Lower bands could be caspase-dependent cleavage fragments. (PMID: 31811908)

All lanes:
Immunoprecipitation - Anti-alpha 1 Fetoprotein antibody [EPAFP61] - BSA and Azide free (ab271896)

Predicted band size: 68 kDa



Western blot - Anti-alpha 1 Fetoprotein antibody [EPAFP61] - BSA and Azide free (ab271896)

Alpha 1 Fetoprotein Western blot staining of HepG2 (Human hepatocellular carcinoma epithelial cell) whole cell lysate using rabbit Anti-alpha 1 Fetoprotein antibody

This data was developed using ab133617, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-alpha 1 Fetoprotein antibody [EPAFP61] (ab133617) at 1/10000 dilution

All lanes:
HepG2 (Human hepatocellular carcinoma epithelial cell) whole cell lysate at 15 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Predicted band size: 68 kDa

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