abcam

ab229378

Anti-ENO1 antibody [EPR19758] - 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	EPR19758
Purification technique	Affinity purification Protein A
Specificity	ab229378 does not cross-react with ENO2 or ENO3.
Concentration	1.003 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	-

Predicted

Species	Rat
Dilution info	-
Notes	-

WB

Expected

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

ICC/IF

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

IHC-P

Tested

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

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information ENO1

Function	Enolase that catalyzes the conversion of 2-phosphoglycerate to phosphoenolpyruvate in glycolysis and the reverse reaction in gluconeogenesis (PubMed:1369209, PubMed:29775581). Also involved in various processes such as growth control, hypoxia tolerance and allergic responses (PubMed:10802057, PubMed:12666133, PubMed:2005901, PubMed:29775581). May also function in the intravascular and pericellular fibrinolytic system due to its ability to serve as a receptor and activator of plasminogen on the cell surface of several cell-types such as leukocytes and neurons (PubMed:12666133). Stimulates immunoglobulin production (PubMed:1369209). Isoform MBP-1. Binds to the myc promoter and acts as a transcriptional repressor. May be a tumor suppressor.

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

ab229378 is the carrier-free version of ab227978.

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	Enolase 1 or alpha-enolase is an important enzyme in the glycolytic pathway. It catalyzes the conversion of 2-phosphoglycerate to phosphoenolpyruvate. We also refer to it as an enolase reaction. ENO1 protein has a molecular mass of approximately 47 kDa and is expressed in most tissues but found most abundantly in the brain muscle and liver. Additionally ENO1 can exist in both cytosolic and plasma membrane-associated forms playing functional roles in different cellular contexts.
Biological function summary	The ENO1 protein serves multiple functions beyond its glycolytic activity. It also acts as a plasminogen receptor on the cell surface aiding in the modulation of pericellular and extracellular matrix degradation processes. Through this role ENO1 influences cell migration and tissue remodeling. This protein can form part of larger protein complexes contributing to its versatility in various cellular functions.
Pathways	ENO1 plays a critical role in glycolysis a central metabolic pathway that converts glucose into pyruvate generating ATP as a result. In this pathway ENO1 closely interacts with other enzymes like phosphoglycerate kinase and pyruvate kinase. Additionally as a plasminogen receptor ENO1 links to the plasminogen activation pathway affecting fibrinolysis and cellular response to tissue injury.
Associated diseases and disorders	ENO1 is associated with cancer and neurodegenerative diseases. Overexpression or aberrant regulation of ENO1 often correlates with tumor progression and metastasis in cancers such as lung and breast cancer. In neurodegenerative

disorders like Alzheimer's disease abnormal functioning of ENO1 can impact brain energy metabolism and neuron degeneration. ENO1's interaction with other proteins such as beta-enolase further connects it to these conditions influencing disease mechanisms and patient outcomes.

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

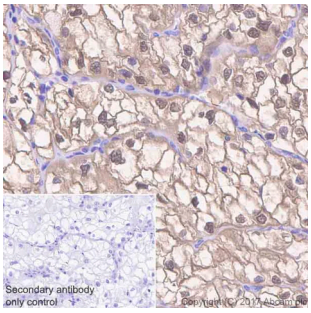
We do not recommend this combination. It is not covered by our product promise.

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



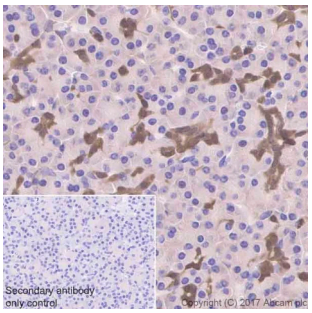
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ENO1 antibody [EPR19758] - BSA and Azide free (ab229378)

ENO1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ENO1 antibody

Immunohistochemical analysis of paraffin-embedded human clear cell renal cell carcinoma tissue labeling ENO1 with ab227978 at 1/2000 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Membranous and nuclear staining in human clear cell kidney carcinoma (PMID: 26037892) is observed. Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab227978).



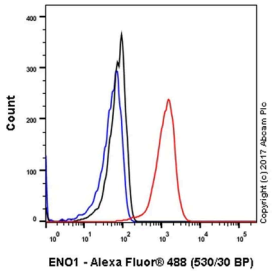
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ENO1 antibody [EPR19758] - BSA and Azide free (ab229378)

ENO1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ENO1 antibody

Immunohistochemical analysis of paraffin-embedded human pancreas tissue labeling ENO1 with ab227978 at 1/2000 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Cytoplasmic and nuclear staining in medium-small ducts of human pancreas (PMID: 19425054) is observed. Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab227978).

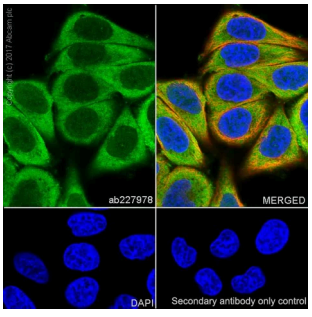


Flow Cytometry (Intracellular) - Anti-ENO1 antibody [EPR19758] - BSA and Azide free (ab229378)

ENO1 Flow Cytometry (Intracellular) staining using rabbit Anti-ENO1 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol-permeabilized HeLa (human epithelial cell line from cervix adenocarcinoma) cells labeling ï¿½ENO1 with ab227978 at 1/600 dilution (red) compared withï¿½a Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (blue).
Goat Anti-Rabbit IgG H&L (Alexa Fluorï¿½ 488) (ab150077), at 1/2000 dilution was used as the secondary antibody.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab227978).



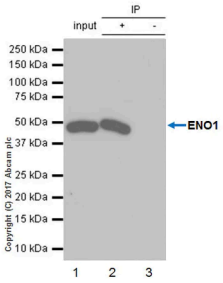
Immunocytochemistry/ Immunofluorescence - Anti-ENO1 antibody [EPR19758] - BSA and Azide free (ab229378)

ENO1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ENO1 antibody

Immunofluorescent analysis of 4% paraformaldegyde-fixed, 0.1% Triton X-100 permeabilized HeLa (human epithelial cell line from cervix adenocarcinoma) cells labeling ENO1 with ab227978 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic and weakly nuclear staining in HeLa cell line.
The nuclear counterstain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) at 1/200 dilution (red).

-ve control: PBS instead of primary antibody, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody 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 (ab227978).



Immunoprecipitation - Anti-ENO1 antibody [EPR19758] - BSA and Azide free (ab229378)

ENO1 was immunoprecipitated from 0.35 mg of Jurkat (human T cell leukemia cell line from peripheral blood) whole cell lysate with ab227978 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab227978 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/10000 dilution.
Lane 1: Jurkat whole cell lysate 10 µg (Input).

Lane 2: ab227978 IP in Jurkat whole cell lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab227978 in Jurkat whole cell lysate.

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

Exposure time: 3 seconds.

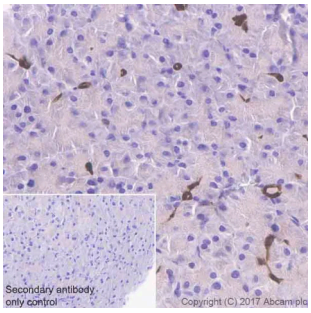
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab227978).

All lanes:
Immunoprecipitation - Anti-ENO1 antibody [EPR19758] (ab227978)

Developed using the ECL technique.

Predicted band size: 47 kDa

Observed band size: 47 kDa



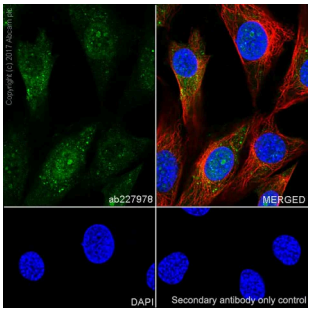
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ENO1 antibody [EPR19758] - BSA and Azide free (ab229378)

ENO1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ENO1 antibody

Immunohistochemical analysis of paraffin-embedded mouse pancreas tissue labeling ENO1 with ab227978 at 1/2000 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Cytoplasmic and nuclear staining in medium-small ducts of mouse pancreas is observed. Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab227978).



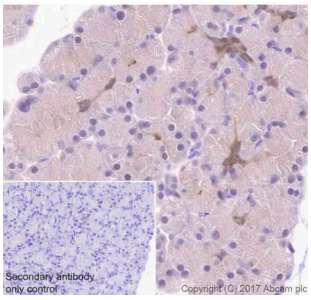
Immunocytochemistry/ Immunofluorescence - Anti-ENO1 antibody [EPR19758] - BSA and Azide free (ab229378)

ENO1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ENO1 antibody

Immunofluorescent analysis of 4% paraformaldegyde-fixed, 0.1% Triton X-100 permeabilized NIH/3T3 (mouse embryo fibroblast cell line) cells labeling ENO1 with ab227978 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic and nuclear staining in NIH/3T3 cell line.
The nuclear counterstain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) at 1/200 dilution (red).

-ve control: PBS instead of primary antibody, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody 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 (ab227978).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ENO1 antibody [EPR19758] - BSA and Azide free (ab229378)

Immunohistochemical analysis of paraffin-embedded rat pancreas tissue labeling ENO1 with ab227978 at 1/2000 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Cytoplasmic and nuclear staining in medium-small ducts of rat pancreas is observed. Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab227978).

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