abcam

ab212122

PE Anti-IDH2 antibody [EPR7577]

Anti-IDH2 antibody [EPR7577] - PE conjugated (ab212122) is a rabbit recombinant monoclonal antibody detecting IDH2 in **Flow Cytometry (Intra)**. Suitable for **Human**.

- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	PE
Excitation/Emission	Ex: 480;565nm, Em: 578nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR7577
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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/1000
Notes	The cellular localisation of this product has been verified in ICC/IF.

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	1 µg/mL
Notes	-

Expected

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

IHC-P

Expected

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

Target data

See full target information IDH2

Function	Plays a role in intermediary metabolism and energy production (PubMed:19228619, PubMed:22416140). It may tightly associate or interact with the pyruvate dehydrogenase complex (PubMed:19228619, PubMed:22416140).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	Up to 12 months
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Aliquoting information	Upon delivery aliquot
Storage information	Do Not Freeze, Store in the dark

Notes

What is this antibody validated in?
PE Anti-IDH2 antibody [EPR7577] (ab212122) is a rabbit recombinant monoclonal antibody and is validated for use in Flow Cytometry (Intra), Flow Cytometry (Flow Cyt) in Human samples.

Related products
Antibody clone EPR7577 is also available pre-conjugated to a variety of labels for your convenience – Anti-IDH2 PE [EPR7577] (ab212122).

Other related products
We have a range of other formats of antibody clone [EPR7577] also available for your convenience: ab131263, PE - ab212122, Carrier free - ab230796, APC - ab317932, Alexa Fluor® 555 - ab318055

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	Isocitrate dehydrogenase 2 (IDH2) is an enzyme that converts isocitrate to alpha-ketoglutarate in the citric acid cycle through oxidative decarboxylation. IDH2 also known as NADP-dependent isocitrate dehydrogenase has a molecular weight of about 51 kDa. This protein expresses in the mitochondria serving an important role in cellular energy production and intermediary metabolism. By facilitating this conversion IDH2 impacts cellular respiration and energy balance.
Biological function summary	The IDH2 enzyme facilitates cellular metabolism by producing NADPH critical for biosynthesis and antioxidant defense. It functions within the oxidative decarboxylation of isocitrate providing reducing equivalents to keep cellular redox balance. Although not part of a larger enzymatic complex IDH2 acts synergistically with other metabolic enzymes to maintain cellular biochemical pathways.
Pathways	The IDH2 protein participates in the citric acid cycle and redox homeostasis. IDH2 contributes to the tricarboxylic acid (TCA) pathway coupling with other TCA components such as citrate synthase and aconitase. Within the redox pathway it influences glucose metabolism via its link with enzymes like NADPH oxidase ensuring a steady supply of NADPH for biosynthetic reactions.
Associated diseases and disorders	The IDH2 protein links to certain cancers like acute myeloid leukemia (AML) due to mutations such as IDH2 R140Q and IDH2 R172K which lead to the production of oncometabolite 2-hydroxyglutarate. This oncometabolite influences epigenetic regulation and cellular differentiation. IDH2 mutations often associate with altered tumor suppressor pathways involving proteins like TP53 contributing to tumorigenesis and impaired cellular differentiation.

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

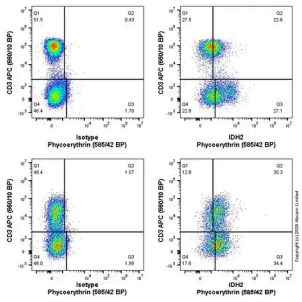
We do not recommend this combination. It is not covered by our product promise.

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



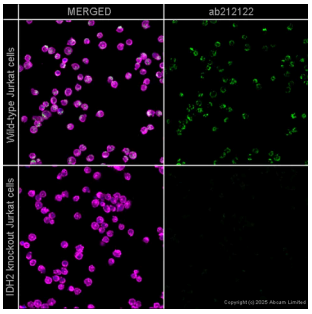
Flow Cytometry (Intracellular) - PE Anti-IDH2 antibody [EPR7577] (ab212122)

IDH2 Flow Cytometry (Intracellular) staining of human peripheral mononuclear cells (PBMCs) using rabbit Anti-IDH2 antibody

Flow cytometry scatter plots showing untreated human peripheral mononuclear cells (PBMCs) (top) and PBMCs activated with 5 µg/ml PHA for 18h (bottom), either stained with ab212122 (right) or isotype control (left). The cells were fixed using BD CytoFix/CytoPerm™ (20 min). The cells were incubated in 1x PBS containing 10 µg/ml human IgG and 10% normal goat serum to block FC receptors and non-specific protein-protein interaction followed by the antibody (ab212122) (1x 10^6 in 100µl at 0.04 µg/ml (1/12500)) for 30min on ice. Isotype control antibody was Rabbit IgG (monoclonal) Phycoerythrin Isotype Control (ab209478) - Isotype Control. The cells were simultaneously stained with CD3.

Acquisition of >30000 events were collected using a 50 mW Yellow/Green laser (561nm) and 585/42 bandpass filter.

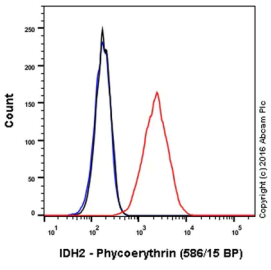
This data was acquired using a Beckman Coulter CytoFlexLX flow cytometer.



Immunocytochemistry/ Immunofluorescence - PE Anti-IDH2 antibody [EPR7577] (ab212122)

IDH2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-IDH2 antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized Jurkat IDH2 knockout cells labeling IDH2 with ab212122 (green) at 1 µg/ml. Cells were counterstained with ab190573 Anti-Tubulin (Alexa Fluor® 647) at 1:250 (2 µg/ml) (magenta). The nuclear counterstain was DAPI (blue).

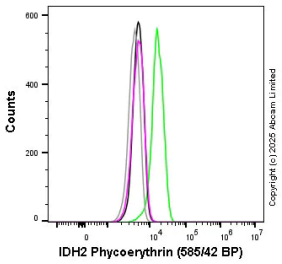


Flow Cytometry (Intracellular) - PE Anti-IDH2 antibody [EPR7577] (ab212122)

IDH2 Flow Cytometry (Intracellular) staining using rabbit Anti-IDH2 antibody

Overlay histogram showing MCF7 cells stained with ab212122 (red line). The cells were fixed with 4% formaldehyde and then permeabilized with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS / 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (ab212122, 1/1000 dilution) for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) Phycoerythrin (ab209478) used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was

also used as a control. Acquisition of >5,000 events were collected using a 50mW Yellow/Green laser (561nm) and 586/15 bandpass filter.
This antibody gave a positive signal in MCF7 cells fixed with 80% methanol (5 min), permeabilized with 0.1% PBS-Triton X-100 for 15 min used under the same conditions.



Flow Cytometry (Intracellular) - PE Anti-IDH2 antibody [EPR7577] (ab212122)

IDH2 Flow Cytometry (Intracellular) staining of Jurkat using rabbit Anti-IDH2 antibody

Flow cytometry overlay histogram showing wild-type Jurkat (green line) and IDH2 knockout Jurkat stained with ab212122 (magenta line). The cells were fixed with 80% methanol (5 min) and then permeabilised with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS containing 10% normal goat serum to block non-specific protein-protein interaction followed by the antibody (ab212122) (1x 10^6 in 100µl at 0.008 µg/ml (1/62500)) for 30min at 22°C.

Isotype control antibody was Rabbit IgG (monoclonal) Phycoerythrin Isotype Control (ab209478) in Jurkat WT cells (black line) and Jurkat-IDH2 KO cells (grey line), used at the same concentration and conditions as the primary antibody.

Acquisition of >5000 events were collected using a 50 mW Yellow/Green laser (561nm) and 585/42 bandpass filter.

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