abcam

ab273159

Anti-Folate Binding Protein/FBP antibody [EPR23387-276] - BSA and Azide free

Anti-Folate Binding Protein/FBP antibody [EPR23387-276] - BSA and Azide free (ab273159) is a rabbit recombinant monoclonal antibody provided in a PBS only buffer for easy conjugation. Suitable for **Flow Cytometry, ICC/IF** in **Human**.

- BSA, sodium azide, and glycerol-free for easy conjugation
- Biophysical QC for unrivalled batch-batch consistency

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	EPR23387-276
Purification technique	Affinity purification Protein A
Concentration	0.977 - 1.017 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information FOLR1

Function	Binds to folate and reduced folic acid derivatives and mediates delivery of 5-methyltetrahydrofolate and folate analogs into the interior of cells (PubMed:19074442, PubMed:23851396, PubMed:23934049, PubMed:2527252, PubMed:8033114, PubMed:8567728). Has high affinity for folate and folic acid analogs at neutral pH (PubMed:23851396, PubMed:23934049, PubMed:2527252, PubMed:8033114, PubMed:8567728). Exposure to slightly acidic pH after receptor endocytosis triggers a conformation change that strongly reduces its affinity for folates and mediates their release (PubMed:8567728). Required for normal embryonic development and normal cell proliferation (By similarity).

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

What is this antibody validated in?
Anti-Folate Binding Protein/FBP antibody [EPR23387-276] - BSA and Azide free (ab273159) is a rabbit recombinant monoclonal antibody and is validated for use in Flow Cytometry (Flow Cyt), Immunocytochemistry/immunofluorescence (ICC/IF) in Human samples.

Other related products
We have a range of other formats of antibody clone [EPR23387-276] also available for your convenience: ab272715, Carrier free - ab273159, Alexa Fluor® 488 - ab275198, PE - ab275200

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	Folate Binding Protein (FBP) also known as FolR1 protein or FOLR-1 is a significant protein with a mass of about 32-38 kDa. It binds folate with high affinity and facilitates its transport into the cell. FBP can be found in various tissues with notable expression in the placenta kidney and certain epithelial tissues. The protein mediates folate uptake by capturing folates in the extracellular matrix and channeling them through receptor-mediated endocytosis.
Biological function summary	FBP plays a critical role in cellular growth and replication by ensuring sufficient folate supply. It belongs to a family of receptors not forming part of a larger protein complex. FBP's primary function is delivering folate an important B vitamin which acts as a one-carbon donor in DNA synthesis and repair. Optimal folate transport by FBP supports cellular functions particularly in rapidly dividing cells.

Pathways	FBP significantly contributes to the folate-mediated one-carbon metabolic pathway critical for nucleotide biosynthesis. This pathway interconnects with the homocysteine remethylation cycle. FBP associates with other enzymes such as dihydrofolate reductase (DHFR) and methylenetetrahydrofolate reductase (MTHFR) which also play key roles in these pathways. These interactions ensure efficient folate metabolism and maintenance of normal cellular functions.
Associated diseases and disorders	FBP's relation to cancer and neural tube defects is well documented. Overexpression of FBP has been observed in various cancers including ovarian and breast cancer which indicates its potential role in tumor progression. In neural tube defects altered folate transport due to variations in FBP expression impacts neural development. FBP connects to other markers like HER2 in cancer which may form part of a therapeutic target strategy.

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

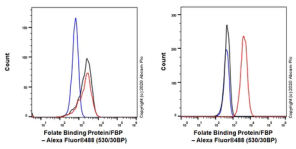
We do not recommend this combination. It is not covered by our product promise.

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.

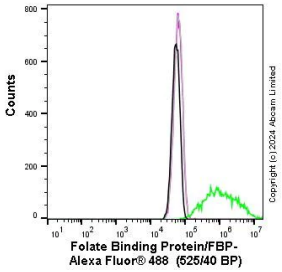
2 product images



Flow Cytometry - Anti-Folate Binding Protein/FBP antibody [EPR23387-276] - BSA and Azide free (ab273159)

Folate Binding Protein/FBP Flow Cytometry staining using rabbit Anti-Folate Binding Protein/FBP antibody

Flow cytometric analysis of K-562 (Human chronic myelogenous leukemia lymphoblast, Left) / JAR (Human placenta choriocarcinoma epithelial cell, Right) cells labelling Folate Binding Protein/FBP with ab272715 at 1/500 dilution (0.1ug) (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 2000 dilution was used as the secondary antibody. **Negative control:** K-562 (PMID: 15899836). Gated on viable cells.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab272715).



Flow Cytometry - Anti-Folate Binding Protein/FBP antibody [EPR23387-276] - BSA and Azide free (ab273159)

Folate Binding Protein/FBP Flow Cytometry staining of HeLa cells using rabbit Anti-Folate Binding Protein/FBP antibody

This data was developed using ab272715, the same antibody clone in a different buffer formulation.

Flow cytometry overlay histogram showing wild-type HeLa (green line) and HeLa-FOLR1 knockout cells stained with ab272715 (magenta line). The cells were incubated in 1x PBS containing 10% normal goat serum to block non-specific protein-protein interaction followed by the antibody (ab272715) (1x 10^6in 100µl at 1.0 µg/ml (1/2000)) for 30min on ice.

The secondary antibody Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/2000 for 30min on ice

Isotype control antibody Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control was used at the same concentration and conditions as the primary antibody (wild-type HeLa - black line, FOLR1 knockout HeLa - grey line). Unlabelled sample was also used as a control (this line is not shown for the purpose of simplicity).

Acquisition of >5000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter.

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