abcam

ab232044

Anti-dUTPase antibody [EPR9608(B)] - 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	EPR9608(B)
Purification technique	Affinity purification Protein A

Reactivity data

WB

Tested

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information DUT

Function	Catalyzes the cleavage of 2'-deoxyuridine 5'-triphosphate (dUTP) into 2'-deoxyuridine 5'-monophosphate (dUMP) and inorganic pyrophosphate and through its action efficiently prevents uracil misincorporation into DNA and at the same time provides dUMP, the substrate for de novo thymidylate biosynthesis (PubMed:17880943, PubMed:8631816, PubMed:8805593). Inhibits peroxisome proliferator-activated receptor (PPAR) activity by binding of its N-terminal to PPAR, preventing the latter's dimerization with retinoid X receptor (By similarity). Essential for embryonic development (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

ab232044 is the carrier-free version of ab137097.

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	The enzyme deoxyuridine triphosphatese also known as dUTPase hydrolyzes dUTP to dUMP and inorganic pyrophosphate. It prevents the incorporation of uracil into DNA which can lead to mutations. The molecular mass of human dUTPase is about 18-20 kDa. It is widely expressed in both prokaryotic and eukaryotic cells including places like the thymus and spleen where DNA synthesis is very active. Alternative names such as DUT or dUTP pyrophosphatase are often used to refer to this enzyme.
Biological function summary	DUTPase maintains nucleotide pool balance and genome integrity. By converting dUTP to dUMP it provides substrates for thymidylate synthase to produce thymidine triphosphate (dTTP) which is essential for DNA replication and repair. dUTPase is not typically part of a larger protein complex but cooperates with other enzymes in nucleotide metabolism. Its activity protects cells from apoptosis that might occur due to extensive uracil misincorporation.
Pathways	DUTPase plays a role in nucleotide metabolism and one-carbon metabolism pathways. It regulates the pyrimidine metabolism pathway ensuring sufficient

	dTTP levels for DNA synthesis. dUTPase interacts indirectly with proteins like thymidylate synthase and dihydrofolate reductase through these pathways. These interactions aid in maintaining a steady supply of nucleotides important for DNA replication and repair.
Associated diseases and disorders	Impairments in dUTPase function can relate to cancer and immunodeficiency disorders. In some cancers altered dUTPase expression affects the sensitivity to chemotherapeutic agents particularly those targeting thymidylate synthesis. In certain immunodeficiencies dUTPase malfunction leads to increased uracil incorporation compromising DNA integrity. The enzyme connects with proteins such as thymidylate synthase in these diseases due to its role in managing nucleotide pools critical for cell proliferation.

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

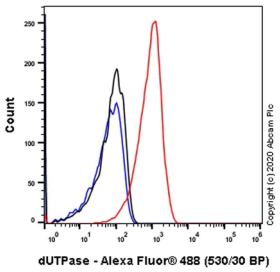
We do not recommend this combination. It is not covered by our product promise.

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.

1 product image



Flow Cytometry (Intracellular) - Anti-dUTPase antibody [EPR9608(B)] - BSA and Azide free (ab232044)

DUTPase Flow Cytometry (Intracellular) staining using rabbit Anti-dUTPase antibody

This data was developed using ab137097, the same antibody clone in a different buffer formulation.

Flow Cytometry analysis of SW620 (Human colorectal adenocarcinoma epithelial cell) cells labeling dUTPase with purified ab137097 at 1/1000 dilution (1 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).

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