abcam

ab137097

Anti-dUTPase antibody [EPR9608(B)]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR9608(B)
Purification technique	Affinity purification Protein A

Reactivity data

WB

Tested

Species	Human
Dilution info	1/10000 - 1/50000
Notes	-

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/250 - 1/500
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/1000
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	Conditional Ambient
Appropriate short-term storage conditions	+4°C

Appropriate long-term storage conditions	-20°C

Notes

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.

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

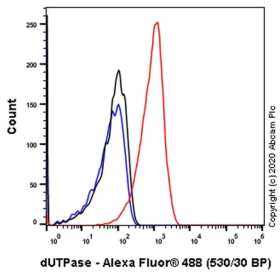
We do not recommend this combination. It is not covered by our product promise.

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.

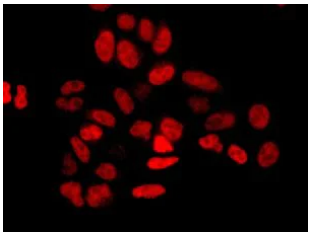
3 product images



Flow Cytometry (Intracellular) - Anti-dUTPase antibody [EPR9608(B)] (ab137097)

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

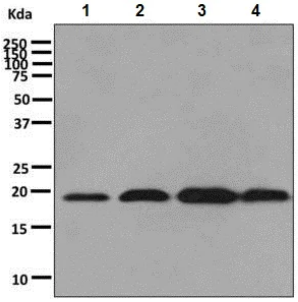
Flow Cytometry analysis of SW620 (Human colorectal adenocarcinoma epithelial cell) cells labeling dUTPase with purified ab137097 at 1/1000 dilution (1 µg/mL) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunocytochemistry/ Immunofluorescence - Anti-dUTPase antibody [EPR9608(B)] (ab137097)

DUTPase Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-dUTPase antibody

Immunofluorescent analysis of HepG2 (Human liver hepatocellular carcinoma cell line) cells labeling dUTPase with ab137097 at 1/250 dilution.



Western blot - Anti-dUTPase antibody [EPR9608(B)] (ab137097)

All lanes:
Western blot - Anti-dUTPase antibody [EPR9608(B)] (ab137097) at 1/10000 dilution

Lane 1:
HeLa cell lysate at 10 µg

Lane 2:
293T cell lysate at 10 µg

Lane 3:
Ramos cell lysate at 10 µg

Lane 4:
HepG2 cell lysate at 10 µg

Secondary

All lanes:
HRP-labelled Goat anti-Rabbit at 1/2000 dilution

Predicted band size: 26 kDa

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