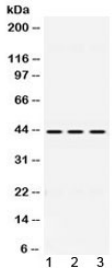
DHODH Polyclonal Antibody / Dihydroorotate Dehydrogenase Rabbit Antibody (R32524)

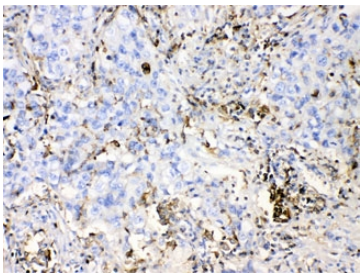
Catalog No.	Formulation	Size
R32524	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

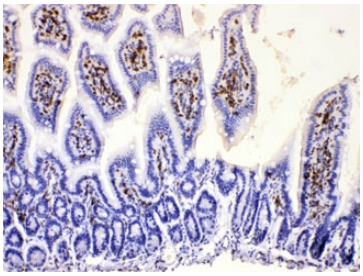
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2.5% BSA and 0.025% sodium azide
UniProt	Q02127
Localization	Cytoplasmic, nuclear
Applications	Western blot: 0.5-1ug/ml IHC (FFPE): 1-2ug/ml
Limitations	This DHODH Polyclonal Antibody / Dihydroorotate Dehydrogenase Rabbit Antibody is available for research use only.



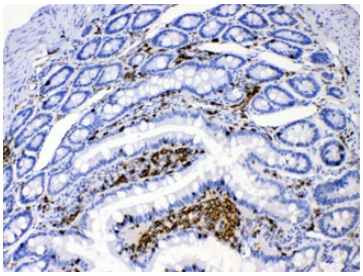
DHODH Polyclonal Antibody by WB in rat liver, mouse spleen, and human HepG2 lysates. Western blot analysis using DHODH Polyclonal Antibody at 0.5 ug/ml. Lane 1: rat liver lysate; lane 2: mouse spleen lysate; lane 3: human HepG2 cell lysate. A distinct immunoreactive band is observed at approximately 43 kDa in all three samples, consistent with the predicted molecular weight of dihydroorotate dehydrogenase. This Dihydroorotate Dehydrogenase Rabbit Antibody detects a mitochondrial enzyme involved in de novo pyrimidine nucleotide biosynthesis.



DHODH Polyclonal Antibody by IHC in human lung cancer. Immunohistochemistry of FFPE human lung cancer tissue using DHODH Polyclonal Antibody at 1 ug/ml. Brown DAB immunoreactivity is visible in tumor cells, with predominantly cytoplasmic staining and variation in intensity across the tissue. Hematoxylin counterstaining highlights nuclei and surrounding tissue architecture. Heat-induced epitope retrieval was performed by steaming sections in citrate buffer, pH 6.0, for 20 minutes. This Dihydroorotate Dehydrogenase Rabbit Antibody recognizes an enzyme involved in mitochondrial metabolism and pyrimidine biosynthesis.



DHODH Polyclonal Antibody by IHC in mouse intestine. Immunohistochemistry of FFPE mouse intestinal tissue using DHODH Polyclonal Antibody at 1 ug/ml. Brown DAB staining is visible in cells within the intestinal mucosa, including areas of the glandular epithelium. Hematoxylin counterstaining highlights intestinal crypts and surrounding tissue structures. Heat-induced epitope retrieval was performed by steaming sections in citrate buffer, pH 6.0, for 20 minutes. This Dihydroorotate Dehydrogenase Rabbit Antibody detects a mitochondrial enzyme essential for de novo pyrimidine nucleotide synthesis.



DHODH Polyclonal Antibody by IHC in rat intestine. Immunohistochemistry of FFPE rat intestinal tissue using DHODH Polyclonal Antibody at 1 ug/ml. Brown DAB immunoreactivity is visible in portions of the intestinal glandular epithelium, with cytoplasmic staining in groups of epithelial cells. Hematoxylin counterstaining highlights nuclei and intestinal mucosal architecture. Heat-induced epitope retrieval was performed by steaming sections in citrate buffer, pH 6.0, for 20 minutes. This Dihydroorotate Dehydrogenase Rabbit Antibody recognizes a mitochondrial enzyme involved in nucleotide production and cellular metabolism.

Description

DHODH Polyclonal Antibody recognizes dihydroorotate dehydrogenase (DHODH), a mitochondrial enzyme involved in de novo pyrimidine nucleotide biosynthesis. DHODH catalyzes the oxidation of dihydroorotate to orotate, the fourth enzymatic step in the pathway leading to uridine monophosphate (UMP) production. Pyrimidine nucleotides are essential components of DNA and RNA and contribute to numerous cellular metabolic processes. This Dihydroorotate Dehydrogenase Rabbit Antibody targets a protein that connects nucleotide synthesis with mitochondrial function.

The human DHODH gene is located on chromosome 16 and encodes a protein of approximately 43 kDa. DHODH is associated with the outer surface of the mitochondrial inner membrane, where its catalytic activity depends on flavin mononucleotide (FMN) and ubiquinone. During dihydroorotate oxidation, electrons are transferred to ubiquinone, linking pyrimidine biosynthesis to mitochondrial electron transport. Consequently, changes in respiratory chain activity can influence DHODH function and nucleotide availability.

De novo pyrimidine synthesis is particularly important in rapidly proliferating cells, which require substantial nucleotide supplies for DNA replication and RNA transcription. Although cells can obtain pyrimidines through salvage pathways, their dependence on de novo synthesis varies with metabolic conditions and proliferative activity. DHODH therefore represents an important connection between mitochondrial metabolism, cellular growth, and nucleotide homeostasis.

DHODH is an established therapeutic target in autoimmune and inflammatory disorders. Inhibition of its enzymatic activity reduces pyrimidine nucleotide production and can limit the proliferation of activated lymphocytes. Leflunomide and teriflunomide are examples of clinically used DHODH inhibitors. The enzyme is also being investigated as a potential therapeutic target in cancer because certain malignant cells depend heavily on de novo pyrimidine synthesis. The Dihydroorotate Dehydrogenase Rabbit Antibody is relevant to studies examining these metabolic pathways.

Research involving DHODH contributes to understanding mitochondrial function, nucleotide metabolism, immune cell

activation, and cellular proliferation. NSJ Bioreagents offers antibodies targeting metabolic enzymes involved in these biological processes. A DHODH Polyclonal Antibody provides a research tool for examining dihydroorotate dehydrogenase expression and investigating the relationship between pyrimidine biosynthesis and mitochondrial metabolism.

For an alternative monoclonal antibody targeting the same enzyme, see our DHODH Antibody 2G7.

Application Notes

Differences in protocols and secondary/substrate sensitivity may require the DHODH Polyclonal Antibody / Dihydroorotate Dehydrogenase Rabbit Antibody to be titrated for optimal performance.

Immunogen

Amino acids 132-173 (RVFRLPEDQAVINRYGFNSHGLSVVEHRLRARQQKQAKLTED) from the human protein were used as the immunogen for the DHODH Polyclonal Antibody.

Storage

After reconstitution, the DHODH Polyclonal Antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Dihydroorotate Dehydrogenase antibody, Dihydroorotate Dehydrogenase Polyclonal antibody, Dihydroorotate Oxidase antibody, DHO Dehydrogenase antibody, Mitochondrial Dihydroorotate Dehydrogenase antibody

Copyright © NSJ Bioreagents. All rights reserved.