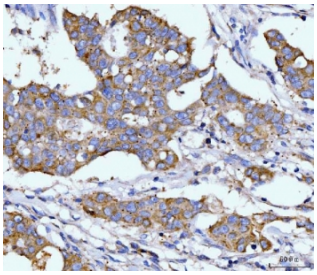
DHODH Antibody 2G7 / Dihydroorotate Dehydrogenase Antibody [clone 2G7] (RQ6735)

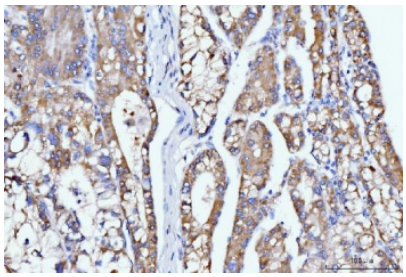
Catalog No.	Formulation	Size
RQ6735	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

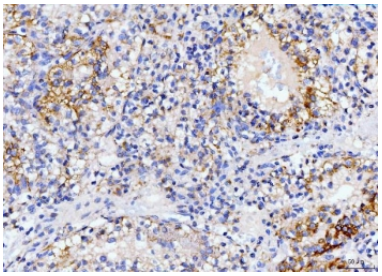
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b
Clone Name	2G7
Purity	Affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q02127
Localization	Cytoplasmic, nuclear
Applications	Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 2-5ug/ml
Limitations	This DHODH Antibody 2G7 / Dihydroorotate Dehydrogenase Antibody is available for research use only.



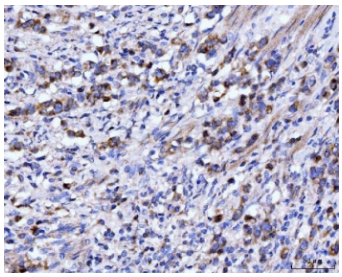
DHODH Antibody 2G7 by IHC in human breast cancer. Immunohistochemistry of FFPE human breast cancer tissue using DHODH Antibody 2G7. Brown DAB staining is observed predominantly in the cytoplasm of tumor cells, with hematoxylin counterstaining highlighting nuclei and tissue architecture. Heat-induced epitope retrieval was performed by boiling sections in EDTA buffer, pH 8.0, for 20 minutes, followed by cooling. This Dihydroorotate Dehydrogenase Antibody recognizes a mitochondrial enzyme involved in de novo pyrimidine nucleotide biosynthesis.



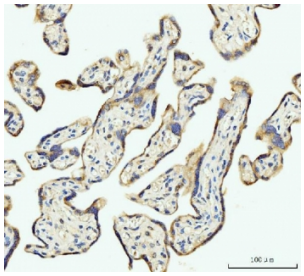
DHODH Antibody 2G7 by IHC in human liver cancer. Immunohistochemistry of FFPE human liver cancer tissue using DHODH Antibody 2G7. Brown DAB immunoreactivity is visible throughout the tumor tissue, with prominent cytoplasmic staining in malignant cells. Hematoxylin counterstaining highlights nuclei and surrounding tissue structures. Heat-induced epitope retrieval was performed by boiling sections in EDTA buffer, pH 8.0, for 20 minutes, followed by cooling. This Dihydroorotate Dehydrogenase Antibody detects an enzyme involved in mitochondrial metabolism and pyrimidine synthesis.



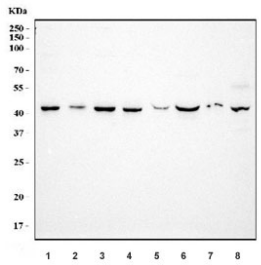
DHODH Antibody 2G7 by IHC in human renal carcinoma. Immunohistochemistry of FFPE human renal carcinoma tissue using DHODH Antibody 2G7. Brown DAB staining is observed in tumor cells, with predominantly cytoplasmic immunoreactivity and variable staining intensity across the tissue. Hematoxylin counterstaining highlights nuclei and surrounding tissue architecture. Heat-induced epitope retrieval was performed by boiling sections in EDTA buffer, pH 8.0, for 20 minutes, followed by cooling. This Dihydroorotate Dehydrogenase Antibody recognizes a mitochondrial enzyme involved in nucleotide biosynthesis.



DHODH Antibody 2G7 by IHC in human gastric cancer. Immunohistochemistry of FFPE human gastric cancer tissue using DHODH Antibody 2G7. Brown DAB immunoreactivity is visible in the cytoplasm of tumor cells, with staining distributed throughout portions of the malignant tissue. Nuclei are counterstained with hematoxylin. Heat-induced epitope retrieval was performed by boiling sections in EDTA buffer, pH 8.0, for 20 minutes, followed by cooling. This Dihydroorotate Dehydrogenase Antibody detects a mitochondrial enzyme associated with de novo pyrimidine synthesis.



DHODH Antibody 2G7 by IHC in human placenta. Immunohistochemistry of FFPE human placental tissue using DHODH Antibody 2G7. Brown DAB immunoreactivity is observed in placental villi, including cytoplasmic staining along the trophoblastic lining. Hematoxylin counterstaining highlights nuclei and the underlying villous architecture. Heat-induced epitope retrieval was performed by boiling sections in EDTA buffer, pH 8.0, for 20 minutes, followed by cooling. This Dihydroorotate Dehydrogenase Antibody recognizes an enzyme involved in mitochondrial metabolism and pyrimidine nucleotide production.



DHODH Antibody 2G7 by WB in human, rat, and mouse samples. Western blot analysis of human HeLa (lane 1), A431 (lane 2), HepG2 (lane 3), and MCF7 (lane 4) cell lysates; rat testis (lane 5) and liver (lane 6) lysates; and mouse testis (lane 7) and liver (lane 8) lysates using DHODH Antibody 2G7. A prominent immunoreactive band is detected at approximately 43 kDa across all eight samples, consistent with the predicted molecular weight of DHODH. This Dihydroorotate Dehydrogenase Antibody recognizes a mitochondrial enzyme involved in de novo pyrimidine nucleotide biosynthesis.

Description

DHODH Antibody 2G7 is a monoclonal antibody that recognizes dihydroorotate dehydrogenase (DHODH), a mitochondrial enzyme essential for de novo pyrimidine nucleotide biosynthesis. DHODH catalyzes the oxidation of dihydroorotate to orotate, a critical step in the production of uridine monophosphate (UMP), which supplies precursors for DNA and RNA synthesis. The enzyme is particularly important in rapidly proliferating cells and activated lymphocytes, where nucleotide requirements are elevated. This Dihydroorotate Dehydrogenase Antibody targets a protein that connects nucleotide production with mitochondrial metabolism.

The human DHODH gene is located on chromosome 16q22.2 and encodes a protein of approximately 395 amino acids with a calculated molecular weight near 43 kDa. DHODH is associated with the mitochondrial inner membrane and contains a flavin mononucleotide (FMN)-binding catalytic domain. During dihydroorotate oxidation, electrons are transferred through FMN to ubiquinone in the mitochondrial electron transport chain. This connection makes DHODH activity dependent on mitochondrial respiratory function and cellular redox balance.

De novo pyrimidine synthesis provides nucleotide precursors required for nucleic acid synthesis, membrane phospholipid production, and glycosylation reactions. DHODH represents an important regulatory point in this pathway because its activity depends on the availability of oxidized ubiquinone. Impaired mitochondrial electron transport can restrict DHODH activity and reduce pyrimidine nucleotide availability. Although pyrimidine salvage pathways can compensate under certain conditions, dependence on de novo synthesis varies with cellular metabolism and proliferative demand.

DHODH has attracted considerable interest as a therapeutic target in autoimmune disorders, inflammatory diseases, and cancer. Inhibition of this enzyme can limit pyrimidine nucleotide production and suppress the proliferation of activated lymphocytes. Leflunomide and its active metabolite teriflunomide are established DHODH inhibitors used in the treatment of autoimmune conditions. DHODH inhibition is also being investigated in oncology because some cancer cells depend heavily on de novo pyrimidine synthesis. The Dihydroorotate Dehydrogenase Antibody is relevant to research investigating metabolic vulnerabilities and nucleotide biosynthesis.

Research involving DHODH provides insight into mitochondrial function, pyrimidine metabolism, immune cell activation, and cellular proliferation. Understanding the regulation of this enzyme contributes to studies of metabolic adaptation and the coordination of nucleotide synthesis with cellular energy production. NSJ Bioreagents offers antibodies targeting metabolic enzymes for research into mitochondrial biology. A DHODH Antibody such as clone 2G7 provides a tool for examining dihydroorotate dehydrogenase expression and its role in nucleotide biosynthesis and mitochondrial metabolism.

Explore our Mitochondria Marker Antibodies collection for additional antibodies targeting mitochondrial enzymes, metabolic regulators, and proteins involved in cellular energy production.

Application Notes

Optimal dilution of the DHODH Antibody 2G7 / Dihydroorotate Dehydrogenase Antibody should be determined by the researcher.

Immunogen

N-terminal region amino acids RVFRLPEDQAVINRYGFNSHGLSVVEHRLRARQQKQAKLTE D from the human protein were used as the immunogen for the DHODH Antibody 2G7.

Storage

After reconstitution, the DHODH Antibody 2G7 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 2G7 antibody, Dihydroorotate Dehydrogenase Monoclonal antibody, Dihydroorotate Oxidase antibody, DHO Dehydrogenase antibody, Mitochondrial Dihydroorotate Dehydrogenase antibody

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