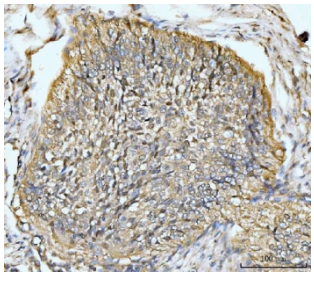
HMGCS1 Antibody / Mevalonate Pathway Enzyme Antibody (RQ6644)

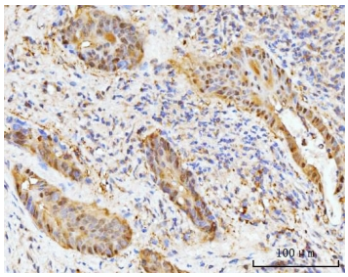
Catalog No.	Formulation	Size
RQ6644	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

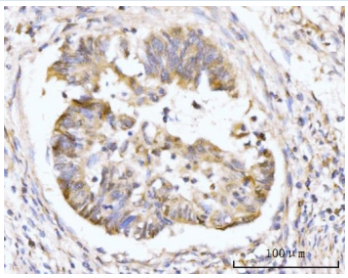
Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q01581
Localization	Cytoplasmic, nuclear
Applications	Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Flow cytometry: 1-3ug/million cells Immunofluorescence: 5ug/ml Direct ELISA: 0.1-0.5ug/ml
Limitations	This HMGCS1 Antibody / Mevalonate Pathway Enzyme Antibody is available for research use only.



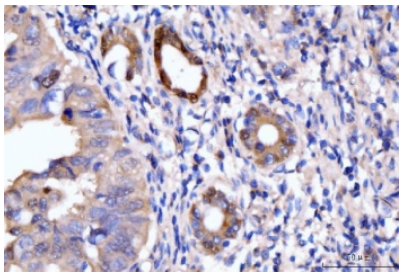
HMGCS1 Antibody Human Lung Cancer IHC. Immunohistochemical staining of FFPE human lung cancer tissue using HMGCS1 Antibody / Mevalonate Pathway Enzyme Antibody demonstrates strong cytoplasmic and membranous HRP-DAB brown staining throughout malignant tumor cells. The staining pattern is consistent with expression of HMGCS1, a key enzyme of the mevalonate pathway that catalyzes an early step in cholesterol and isoprenoid biosynthesis. Robust HMGCS1 immunoreactivity within the neoplastic cell population supports the importance of metabolic reprogramming and lipid biosynthetic pathways in lung cancer biology. The observed expression pattern is consistent with the elevated metabolic demands associated with tumor growth, membrane synthesis, and cellular proliferation. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



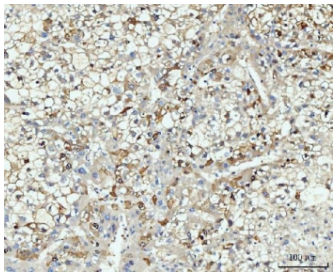
HMGCS1 Antibody Human Gallbladder Adenosquamous Carcinoma IHC. Immunohistochemical staining of FFPE human gallbladder adenosquamous carcinoma tissue using HMGCS1 Antibody / Mevalonate Pathway Enzyme Antibody demonstrates moderate to strong cytoplasmic and membranous HRP-DAB brown staining within malignant epithelial tumor cells. The staining pattern is consistent with expression of HMGCS1, a key metabolic enzyme that catalyzes an early step in the mevalonate pathway responsible for cholesterol and isoprenoid biosynthesis. Positive immunoreactivity within neoplastic cells highlights the importance of lipid metabolic pathways in supporting membrane synthesis, cellular growth, and tumor progression. The observed expression pattern supports the utility of HMGCS1 as a marker for studies of metabolic reprogramming and mevalonate pathway activity in cancer. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



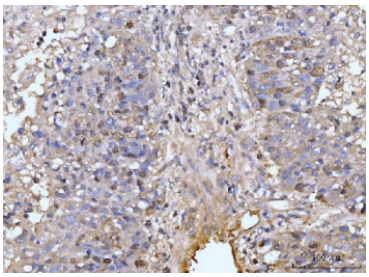
HMGCS1 Antibody Human Gastric Adenocarcinoma IHC. Immunohistochemical staining of FFPE human gastric adenocarcinoma tissue using HMGCS1 Antibody / Mevalonate Pathway Enzyme Antibody demonstrates moderate to strong cytoplasmic and membranous HRP-DAB brown staining within malignant gland-forming epithelial cells. The staining pattern is consistent with expression of HMGCS1, a key enzyme of the mevalonate pathway that catalyzes an early step in cholesterol and isoprenoid biosynthesis. Positive immunoreactivity within neoplastic gastric epithelial cells supports the importance of lipid metabolic pathways in tumor growth, membrane production, and cellular proliferation. The observed expression pattern highlights the utility of HMGCS1 as a marker for studies of metabolic reprogramming and cholesterol biosynthesis in gastric cancer. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



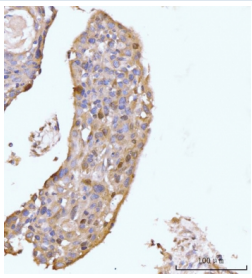
HMGCS1 Antibody Gastric Adenocarcinoma Tissue IHC. Immunohistochemical staining of FFPE human gastric adenocarcinoma tissue using HMGCS1 Antibody / Mevalonate Pathway Enzyme Antibody demonstrates distinct cytoplasmic and membranous HRP-DAB brown staining within malignant glandular epithelial cells. The staining pattern is consistent with expression of HMGCS1, a key enzyme of the mevalonate pathway responsible for the synthesis of HMG-CoA, an essential precursor for cholesterol and isoprenoid biosynthesis. Positive immunoreactivity within neoplastic gastric glands highlights the importance of metabolic pathways that support membrane biogenesis, cellular proliferation, and tumor growth. These results support the utility of HMGCS1 as a marker for studies of cholesterol metabolism and metabolic reprogramming in gastric adenocarcinoma. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



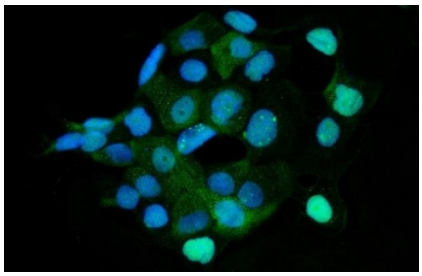
HMGCS1 Antibody Human Liver Cancer IHC. Immunohistochemical staining of FFPE human liver cancer tissue using HMGCS1 Antibody / Mevalonate Pathway Enzyme Antibody demonstrates widespread cytoplasmic and membranous HRP-DAB brown staining throughout malignant hepatocyte-like tumor cells. The staining pattern is consistent with expression of HMGCS1, a key enzyme that catalyzes an early step in the mevalonate pathway and supports cholesterol and isoprenoid biosynthesis. Strong HMGCS1 immunoreactivity within the neoplastic cell population highlights the importance of lipid metabolism and metabolic reprogramming in liver cancer biology. The observed expression pattern supports the utility of HMGCS1 as a marker for studies of cholesterol biosynthesis, cellular proliferation, and mevalonate pathway activity in hepatic malignancies. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



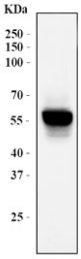
HMGCS1 Antibody Hepatocellular Carcinoma IHC. Immunohistochemical staining of FFPE human liver cancer tissue using HMGCS1 Antibody / Mevalonate Pathway Enzyme Antibody demonstrates moderate cytoplasmic and membranous HRP-DAB brown staining within malignant hepatocyte-like tumor cells. The staining pattern is consistent with expression of HMGCS1, a key enzyme of the mevalonate pathway responsible for the synthesis of HMG-CoA, an essential precursor for cholesterol and isoprenoid biosynthesis. Positive immunoreactivity is observed throughout neoplastic cell populations and supports the role of HMGCS1 in metabolic pathways that contribute to membrane synthesis, cellular growth, and tumor progression. These results demonstrate the utility of HMGCS1 as a marker for studies of cholesterol metabolism and metabolic reprogramming in hepatocellular malignancies. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



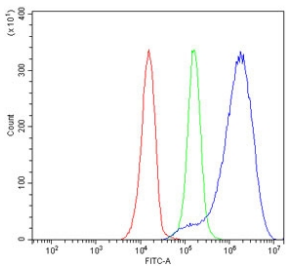
HMGCS1 Antibody Esophageal Squamous Carcinoma IHC. Immunohistochemical staining of FFPE human esophageal squamous carcinoma tissue using HMGCS1 Antibody / Mevalonate Pathway Enzyme Antibody demonstrates moderate cytoplasmic and membranous HRP-DAB brown staining within malignant squamous epithelial cells. The staining pattern is consistent with expression of HMGCS1, a key enzyme of the mevalonate pathway that catalyzes an early step in cholesterol and isoprenoid biosynthesis. Positive immunoreactivity within the neoplastic cell population highlights the importance of lipid metabolic pathways that support membrane production, cellular proliferation, and tumor growth. These findings support the utility of HMGCS1 as a marker for studies of metabolic reprogramming and mevalonate pathway activity in esophageal squamous cell carcinoma. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



HMGCS1 Antibody A431 Cell IF. Immunofluorescent staining of FFPE human A431 cells using HMGCS1 Antibody / Mevalonate Pathway Enzyme Antibody demonstrates cytoplasmic green fluorescence throughout the cell population. The staining pattern is consistent with expression of HMGCS1, a cytosolic enzyme that catalyzes an early step in the mevalonate pathway responsible for cholesterol and isoprenoid biosynthesis. HMGCS1 localization within the cytoplasm reflects its role in cellular lipid metabolism, membrane biogenesis, and metabolic regulation. DAPI nuclear counterstain (blue) identifies cell nuclei and provides cellular context for HMGCS1 expression. HIER: steam section in pH6 citrate buffer for 20 min.



HMGCS1 Antibody HepG2 WB. Western blot analysis of human HepG2 cell lysate using HMGCS1 Antibody / Mevalonate Pathway Enzyme Antibody. A strong immunoreactive band is detected at approximately 57 kDa, consistent with the expected molecular weight of HMGCS1 (3-Hydroxy-3-Methylglutaryl-CoA Synthase 1). HMGCS1 is a key cytosolic enzyme of the mevalonate pathway that catalyzes the synthesis of HMG-CoA, an essential precursor for cholesterol and isoprenoid biosynthesis. The prominent single-band staining pattern supports specific detection of endogenous HMGCS1 and demonstrates the utility of this antibody for western blot applications. Predicted molecular weight: ~57 kDa. Observed molecular weight: ~57 kDa.



HMGCS1 Antibody JK-1 Flow Cytometry. Flow cytometric analysis of human JK-1 cells stained with HMGCS1 Antibody / Mevalonate Pathway Enzyme Antibody demonstrates a clear rightward shift of the positive population (blue) relative to both the isotype control (green) and unstained cells (red). The observed fluorescence profile is consistent with expression of HMGCS1, a key cytosolic enzyme of the mevalonate pathway that catalyzes the formation of HMG-CoA, an essential precursor for cholesterol and isoprenoid biosynthesis. The distinct separation between antibody-stained and control populations supports specific detection of endogenous HMGCS1 by flow cytometry. Cells were blocked with goat serum and stained with HMGCS1 antibody at 1 ug/million cells. Red = cells alone, Green = isotype control, Blue = HMGCS1 antibody.

Description

HMGCS1 Antibody / Mevalonate Pathway Enzyme Antibody recognizes HMGCS1 (3-Hydroxy-3-Methylglutaryl-CoA Synthase 1), a cytosolic enzyme that catalyzes the condensation of acetyl-CoA and acetoacetyl-CoA to generate HMG-CoA. This reaction represents a key regulatory step within the mevalonate pathway, a highly conserved metabolic pathway responsible for the biosynthesis of cholesterol, isoprenoids, dolichols, ubiquinone, and other essential cellular metabolites. Because these products are required for membrane formation, intracellular signaling, and protein modification, HMGCS1 plays a central role in cellular metabolism and homeostasis.

HMGCS1 Antibody is widely used for studying cholesterol biosynthesis and metabolic regulation. Expression of HMGCS1 is tightly controlled by sterol-responsive transcription factors and cellular cholesterol levels, allowing cells to adjust biosynthetic activity in response to metabolic demand. Through its position upstream of HMG-CoA reductase, HMGCS1 contributes to regulation of a pathway that is essential for membrane integrity, cell growth, and maintenance of normal cellular function. As a result, HMGCS1 has become an important marker for investigations of lipid metabolism and sterol homeostasis.

HMGCS1 Antibody is also valuable for examining the production of isoprenoid intermediates required for protein prenylation and intracellular signaling. Products generated through the mevalonate pathway support numerous biological processes, including membrane trafficking, signal transduction, cellular proliferation, and survival pathways. Alterations in HMGCS1 expression or activity can influence these downstream processes, making the enzyme an important target for studies of metabolic signaling and cellular regulation.

HMGCS1 Antibody has gained increasing importance in cancer biology, cardiovascular research, and metabolic disease investigations. Dysregulation of cholesterol biosynthesis and mevalonate pathway activity has been associated with tumor growth, altered cellular metabolism, and cardiovascular disorders. Because rapidly proliferating cells frequently exhibit increased demand for cholesterol and isoprenoid synthesis, HMGCS1 is often evaluated as a biomarker of metabolic reprogramming and pathway activation. These observations have generated significant interest in HMGCS1 as both a research target and a potential therapeutic pathway component.

HMGCS1 Antibody supports research involving cholesterol metabolism, lipid biosynthesis, mevalonate pathway regulation, metabolic disease, cancer biology, and cellular signaling. Because HMGCS1 occupies a critical position in one of the most important anabolic pathways in mammalian cells, it remains an essential target for studies aimed at understanding the relationship between metabolism, growth regulation, and disease progression.

Researchers studying cholesterol biosynthesis, lipid metabolism, and mevalonate pathway regulation may also be interested in our comprehensive collection of Metabolism Antibodies.

Application Notes

Optimal dilution of the HMGCS1 Antibody / Mevalonate Pathway Enzyme Antibody should be determined by the researcher.

Immunogen

Recombinant human protein (amino acids K251-H520) was used as the immunogen for the HMGCS1 antibody.

Storage

After reconstitution, the HMGCS1 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

HMGCS1 Antibody, HMG-CoA Synthase 1 Antibody, 3-Hydroxy-3-Methylglutaryl-CoA Synthase 1 Antibody, Cytosolic HMG-CoA Synthase Antibody, Mevalonate Pathway Enzyme Antibody, Cholesterol Biosynthesis Enzyme Antibody, Sterol Biosynthesis Enzyme Antibody, Hydroxymethylglutaryl-CoA Synthase 1 Antibody

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