10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

FHIT Rabbit pAb

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Catalog # AP52217

Product Information

Application	WB
Primary Accession	P49789
Predicted	Rat, Pig, Dog, Human, Mouse, Rabbit, Chicken, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	16858
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human FHIT
Epitope Specificity	31-147/147
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cytoplasm.
DISEASE	Glycogen storage disease 1A (GSD1A) [MIM:232200]: A metabolic disorder characterized by impairment of terminal steps of glycogenolysis and gluconeogenesis. Patients manifest a wide range of clinical symptoms and biochemical abnormalities, including hypoglycemia, severe hepatomegaly due to excessive accumulation of glycogen, kidney enlargement, growth retardation, lactic acidemia, hyperlipidemia, and hyperuricemia. Note=The disease is caused by mutations affecting the gene represented in this entry.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	FHIT (fragile histidine triad) cleaves adenosine 5' PPP 5' A to yield AMP and ADP. Alterations and deletions of the FHIT gene are strongly linked to the genesis and establishment of human tumors of the lung, cervix, breast, colon, stomach and pancreas. In normal cells, FHIT may act as a tumor suppressor. FHIT physically associates with ubiquitin conjugating enzyme 9.

Additional Information

Gene ID	2272
Other Names	Bis(5'-adenosyl)-triphosphatase, 3.6.1.29, AP3A hydrolase, AP3Aase, Adenosine 5'-monophosphoramidase FHIT, 3.9.1.-, Adenylylsulfatase, 3.6.2.1, Adenylylsulfate-ammonia adenylyltransferase, 2.7.7.51, Diadenosine 5', 5'''-P1, P3-triphosphate hydrolase, Dinucleosidetriphosphatase, Fragile histidine triad protein, FHIT
Dilution	WB=1:500-2000,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When

reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name FHIT

Function Possesses dinucleoside triphosphate hydrolase activity (PubMed: 12574506, PubMed:15182206, PubMed:8794732, PubMed:9323207, PubMed:9543008, PubMed:9576908). Cleaves P(1)-P(3)-bis(5'-adenosyl) triphosphate (Ap3A) to yield AMP and ADP (PubMed:12574506, PubMed:15182206, PubMed:8794732, PubMed:9323207, PubMed:9543008, PubMed:9576908). Can also hydrolyze P(1)-P(4)-bis(5'-adenosyl) tetraphosphate (Ap4A), but has extremely low activity with ATP (PubMed:8794732). Exhibits adenylylsulfatase activity, hydrolyzing adenosine 5'-phosphosulfate to yield AMP and sulfate (PubMed:18694747). Exhibits adenosine 5'-monophosphoramidase activity, hydrolyzing purine nucleotide phosphoramidates with a single phosphate group such as adenosine 5'monophosphoramidate (AMP-NH2) to yield AMP and NH2 (PubMed:18694747). Exhibits adenylylsulfate-ammonia adenylyltransferase, catalyzing the ammonolysis of adenosine 5'-phosphosulfate resulting in the formation of adenosine 5'- phosphoramidate (PubMed:26181368). Also catalyzes the ammonolysis of adenosine 5-phosphorofluoridate and diadenosine triphosphate (PubMed:26181368). Modulates transcriptional activation by CTNNB1 and thereby contributes to regulate the expression of genes essential for cell proliferation and survival, such as CCND1 and BIRC5 (PubMed:18077326). Plays a role in the induction of apoptosis via SRC and AKT1 signaling pathways (PubMed:16407838). Inhibits MDM2-mediated proteasomal degradation of p53/TP53 and thereby plays a role in p53/TP53-mediated apoptosis (PubMed:15313915). Induction of apoptosis depends on the ability of FHIT to bind P(1)-P(3)-bis(5'-adenosyl) triphosphate or related compounds, but does not require its catalytic activity, it may in part come from the mitochondrial form, which sensitizes the low-affinity Ca(2+) transporters, enhancing mitochondrial calcium uptake (PubMed:12574506, PubMed:19622739). Functions as a tumor suppressor (By similarity).

Cellular Location Cytoplasm. Mitochondrion. Nucleus

Tissue Location Low levels expressed in all tissues tested. Phospho-FHIT observed in liver and kidney, but not in brain and lung Phospho-FHIT undetected in all tested human tumor cell lines

Background

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References

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