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

FHIT Antibody
Catalog # ASC11691

Specification

FHIT Antibody - Product Information

Application	**WB, IF, E**
Primary Accession	P49789
Other Accession	NP_002003, 4503719
Reactivity	**Human, Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Calculated MW	**Predicted: 16 kDa** **Observed: 15kDa KDa**
Application Notes	**FHIT antibody can be used for detection of FHIT by Western blot at 1 - 2 µg/ml.**

FHIT Antibody - Additional Information

Gene ID **2272**

Target/Specificity
FHIT; FHIT antibody is human and mouse reactive.

Reconstitution & Storage
FHIT antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.

Precautions
FHIT Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

FHIT Antibody - 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:<a

href="http://www.uniprot.org/citations/9576908" target="_blank">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

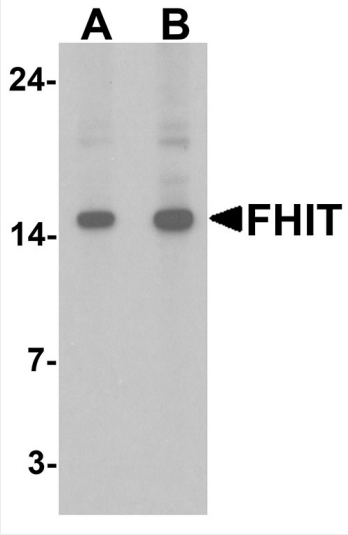
FHIT Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

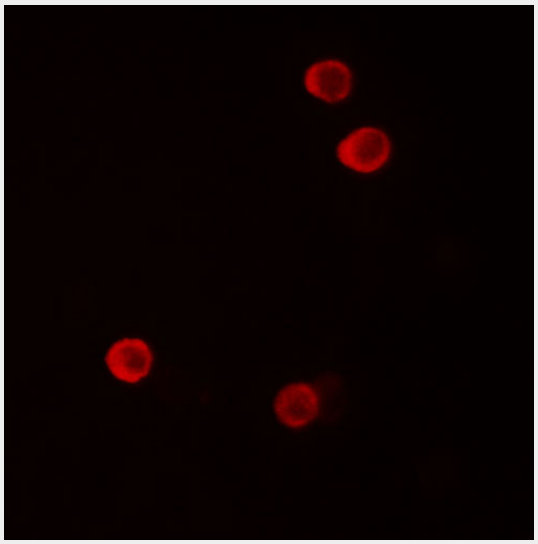
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

FHIT Antibody - Images

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



Western blot analysis of FHIT in HeLa cell lysate with FHIT antibody at (A) 1 and (B) 2 µg/ml.



Immunofluorescence of FHIT in HeLa cells with FHIT antibody at 5 µg/mL.

FHIT Antibody - Background

FHIT is member of the histidine triad gene family and is a diadenosine involved in purine metabolism (1). FHIT is also thought to be a tumor suppressor gene and is involved in multiple apoptotic pathways (1,2). The FHIT gene encompasses the common fragile site FRA3B on chromosome 3, where carcinogen-induced damage can lead to translocations and aberrant transcripts of this gene (3). Aberrant transcripts from this gene have been found in multiple carcinomas (4).

FHIT Antibody - References

Barnes LD, Garrison PN, Siprashvili Z, et al. Fhit, a putative tumor suppressor in humans, is a dinucleotide 5',5'''-P1,P3-triphosphate hydrolase. Biochemistry 1996; 35:11529-35.
Wali A. FHIT: doubts are clear now. ScientificWorldJournal 2010; 10:1142-51.
Ohta M, Inoue H, Cotticelli MG, et al. The FHIT gene, spanning the chromosome 3p14.2 fragile site and renal carcinoma-associated t(3;8) breakpoint, is abnormal in digestive tract cancers. Cell 1996; 84:587-97.
Drusco A, Pekarsky Y, Costinean S, et al. Common fragile site tumor suppressor genes and

corresponding mouse models of cancer. J. Biomed. Biotechnol.2011; Epub 2010 Dec 29.