

FHIT Antibody
Catalog # ASC11691**Specification****FHIT Antibody - Product Information**

Application	WB, IF
Primary Accession	P49789
Other Accession	NP_002003 , 4503719
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	Predicted: 16 kDa

Application Notes	Observed: 15kDa KDa FHIT antibody can be used for detection of FHIT by Western blot at 1 - 2 µg/ml.
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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°C for three months and -20°C, 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](http://www.uniprot.org/citations/12574506), PubMed: [15182206](http://www.uniprot.org/citations/15182206), PubMed: [8794732](http://www.uniprot.org/citations/8794732), PubMed: [9323207](http://www.uniprot.org/citations/9323207), PubMed: [9543008](http://www.uniprot.org/citations/9543008), PubMed: [9576908](http://www.uniprot.org/citations/9576908)). Cleaves P(1)-P(3)-bis(5'-adenosyl) triphosphate (Ap3A) to yield AMP and ADP (PubMed: [12574506](http://www.uniprot.org/citations/12574506), PubMed: [15182206](http://www.uniprot.org/citations/15182206), PubMed: [8794732](http://www.uniprot.org/citations/8794732), PubMed: [9323207](http://www.uniprot.org/citations/9323207), PubMed: [9543008](http://www.uniprot.org/citations/9543008), PubMed: [9576908](http://www.uniprot.org/citations/9576908)).

[9576908](http://www.uniprot.org/citations/9576908)). Can also hydrolyze P(1)-P(4)-bis(5'-adenosyl) tetraphosphate (Ap4A), but has extremely low activity with ATP (PubMed: [8794732](http://www.uniprot.org/citations/8794732)). Exhibits adenylsulfatase activity, hydrolyzing adenosine 5'-phosphosulfate to yield AMP and sulfate (PubMed: [18694747](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/18694747)). Exhibits adenylsulfate-ammonia adenyltransferase, catalyzing the ammonolysis of adenosine 5'-phosphosulfate resulting in the formation of adenosine 5'-phosphoramidate (PubMed: [26181368](http://www.uniprot.org/citations/26181368)). Also catalyzes the ammonolysis of adenosine 5-phosphorofluoridate and diadenosine triphosphate (PubMed: [26181368](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/18077326)). Plays a role in the induction of apoptosis via SRC and AKT1 signaling pathways (PubMed: [16407838](http://www.uniprot.org/citations/16407838)). Inhibits MDM2-mediated proteasomal degradation of p53/TP53 and thereby plays a role in p53/TP53-mediated apoptosis (PubMed: [15313915](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/12574506), PubMed: [19622739](http://www.uniprot.org/citations/19622739)). Functions as a tumor suppressor (By similarity).

Cellular Location

Cytoplasm. Mitochondrion. Nucleus

Tissue Location

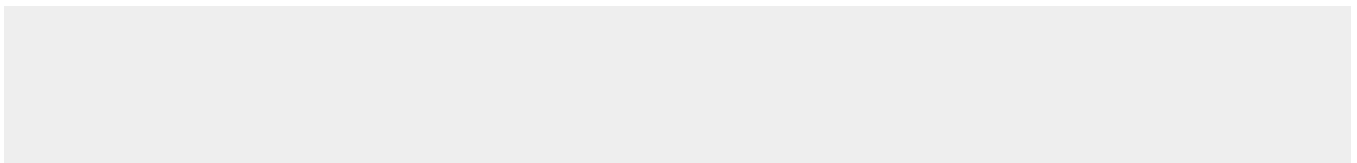
Low levels expressed in all tissues tested. Phospho-FHIT observed in liver and kidney, but not in brain and lung Phospho-FHIT undetected in all tested human tumor cell lines

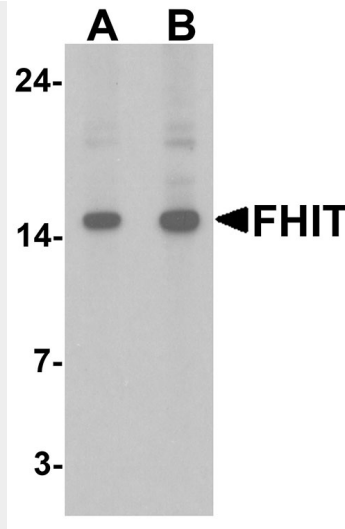
FHIT Antibody - Protocols

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

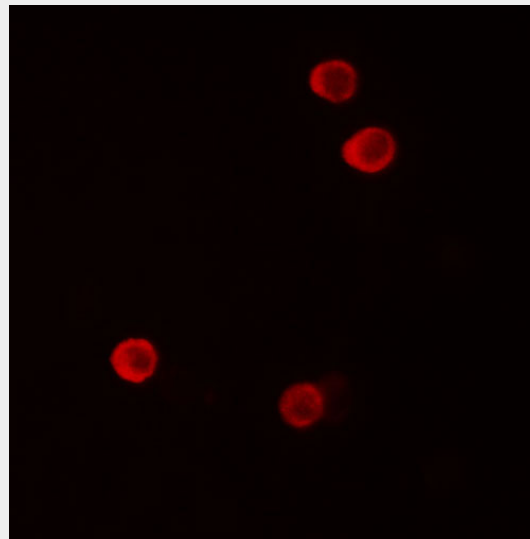
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

FHIT Antibody - Images





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.