

**FHIT Antibody**  
**Purified Mouse Monoclonal Antibody (Mab)**  
**Catalog # AM8464b****Specification**

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**FHIT Antibody - Product Information**

Application	WB, FC,E
Primary Accession	<a href="#">P49789</a>
Reactivity	Human
Host	Mouse
Clonality	monoclonal
Isotype	IgG1,k
Calculated MW	16858

**FHIT Antibody - Additional Information****Gene ID** 2272**Other Names**

Bis(5'-adenosyl)-triphosphatase, AP3A hydrolase, AP3Aase, Diadenosine 5', 5'''-P1, P3-triphosphate hydrolase, Dinucleosidetriphosphatase, Fragile histidine triad protein, FHIT

**Target/Specificity**

This FHIT antibody is generated from a mouse immunized with a recombinant protein.

**Dilution**

WB~~1:4000

FC~~1:25

**Format**

Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.

**Storage**

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**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:[9576908](#), PubMed:[9543008](#)). Cleaves P(1)-P(3)-bis(5'-adenosyl) triphosphate (Ap3A) to yield AMP and ADP (PubMed:[12574506](#), PubMed:[15182206](#), PubMed:[8794732](#), PubMed:[9323207](#), PubMed:[9576908](#), PubMed:[9543008](#)).

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-NH<sub>2</sub>) to yield AMP and NH<sub>2</sub> (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**

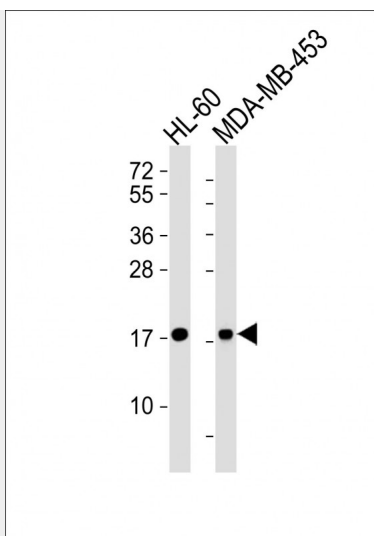
Low levels expressed in all tissues tested. Phospho-FHIT observed in liver and kidney, but not in brain and lung Phospho-FHIT undetected in all tested human tumor cell lines

**FHIT Antibody - Protocols**

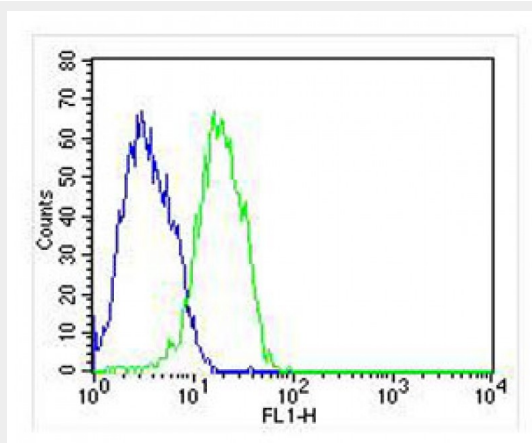
Provided below are standard protocols that you may find useful for product applications.

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

**FHIT Antibody - Images**



All lanes : Anti-FHIT Antibody at 1:4000 dilution Lane 1: HL-60 whole cell lysates Lane 2: MDA-MB-453 whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 17 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Overlay histogram showing HepG2 cells stained with AM8464b (green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then incubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AM8464b, 1:25 dilution) for 60 min at 37°C. The secondary antibody used was Goat-Anti-Mouse IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed(NA168821)) at 1/400 dilution for 40 min at 37°C. Isotype control antibody (blue line) was mouse IgG1 (1µg/1x10<sup>6</sup> cells) used under the same conditions. Acquisition of >10, 000 events was performed.

### **FHIT Antibody - Background**

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uptake. Functions as tumor suppressor.

#### **FHIT Antibody - References**

Ohta M.,et al.Cell 84:587-597(1996).  
Druck T.,et al.Cancer Res. 57:504-512(1997).  
Corominas R.,et al.Nat. Commun. 5:3650-3650(2014).  
Naqvi S.R.A.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.  
Ota T.,et al.Nat. Genet. 36:40-45(2004).