

# FHIT Antibody

Purified Mouse Monoclonal Antibody (Mab)

Catalog # AM8464b

## Product Information

---

<b>Application</b>	WB, FC, E
<b>Primary Accession</b>	<a href="#">P49789</a>
<b>Reactivity</b>	Human, Rat, Mouse
<b>Host</b>	Mouse
<b>Clonality</b>	monoclonal
<b>Isotype</b>	IgG1,k
<b>Clone Names</b>	1093CT23.1.2
<b>Calculated MW</b>	16858

## Additional Information

---

<b>Gene ID</b>	2272
<b>Other Names</b>	Bis(5'-adenosyl)-triphosphatase, AP3A hydrolase, AP3Aase, Diadenosine 5', 5'''-P1, P3-triphosphate hydrolase, Dinucleosidetriphosphatase, Fragile histidine triad protein, FHIT
<b>Target/Specificity</b>	This FHIT antibody is generated from a mouse immunized with a recombinant protein.
<b>Dilution</b>	WB~~1:4000 FC~~1:25 E~~Use at an assay dependent concentration.
<b>Format</b>	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.
<b>Storage</b>	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.
<b>Precautions</b>	FHIT Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

---

<b>Name</b>	FHIT
<b>Function</b>	Possesses dinucleoside triphosphate hydrolase activity (PubMed: <a href="#">12574506</a> , PubMed: <a href="#">15182206</a> , PubMed: <a href="#">8794732</a> , PubMed: <a href="#">9323207</a> , PubMed: <a href="#">9543008</a> , PubMed: <a href="#">9576908</a> ). Cleaves P(1)-P(3)-bis(5'-adenosyl) triphosphate (Ap3A) to yield AMP and ADP (PubMed: <a href="#">12574506</a> , PubMed: <a href="#">15182206</a> , PubMed: <a href="#">8794732</a> , PubMed: <a href="#">9323207</a> , PubMed: <a href="#">9543008</a> , PubMed: <a href="#">9576908</a> ). 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

## Background

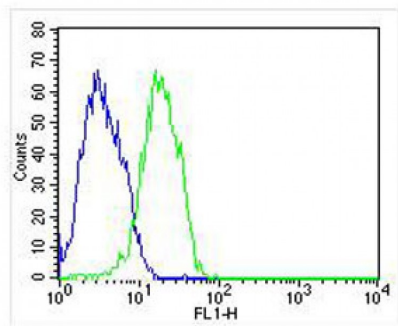
Cleaves P(1)-P(3)-bis(5'-adenosyl) triphosphate (Ap3A) to yield AMP and ADP. Can also hydrolyze P(1)-P(4)-bis(5'-adenosyl) tetraphosphate (Ap4A), but has extremely low activity with ATP. Modulates transcriptional activation by CTNNB1 and thereby contributes to regulate the expression of genes essential for cell proliferation and survival, such as CCND1 and BIRC5. Plays a role in the induction of apoptosis via SRC and AKT1 signaling pathways. Inhibits MDM2-mediated proteasomal degradation of p53/TP53 and thereby plays a role in p53/TP53-mediated apoptosis. 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. Functions as tumor suppressor.

## References

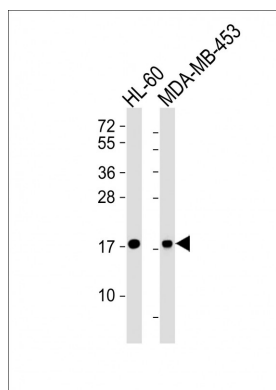
Ohta M., et al. Cell 84:587-597(1996).  
 Druck T., et al. Cancer Res. 57:504-512(1997).  
 Corominas R., et al. Nat. Commun. 5:3650-3650(2014).  
 Naqvi S.R.A., et al. Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.  
 Ota T., et al. Nat. Genet. 36:40-45(2004).

## Images

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 (1 µg/1×10<sup>6</sup> cells) used under the same conditions. Acquisition of >10,000 events was performed.



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.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.