FHIT Protein, Human (His)

Cat. No.:	HY-P75187
Synonyms:	Bis(5'-adenosyl)-triphosphatase; AP3A hydrolase; AP3Aase; FHIT
Species:	Human
Source:	E. coli
Accession:	P49789 (M1-Q147)
Gene ID:	2272
Molecular Weight:	Approximately 18 kDa

PROPERTIES

AA Sequence	M S F R F G Q H L I K P S V V F L K T E L S F A L V N R K P V V P G H V L V C P L R P V E R F H D L R P D E V A D L F Q T T Q R V G T V V E K H F H G T S L T F S M Q D G P E A G Q T V K H V H V H V L P R K A G D F H R N D S I Y E E L Q K H D K E D F P A S W R S E E E M A A E A A A L R V Y F Q
Biological Activity	Measured by its ability to inhibit the proliferation of A549 cells. The ED_{50} for this effect is 0.1098 ng/mL, corresponding to a specific activity is 9.107×10^6 units/mg.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of 50 mM Tris-HCL, 300 mM NaCl, pH 8.0, 10% Glycerol.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	FHIT protein exhibits dinucleoside triphosphate hydrolase activity, specifically cleaving P(1)-P(3)-bis(5'-adenosyl) triphosphate (Ap3A) to generate AMP and ADP. Additionally, it displays adenylylsulfatase activity, hydrolyzing adenosine 5'-phosphosulfate into AMP and sulfate, as well as adenosine 5'-monophosphoramidase activity, breaking down purine nucleotide phosphoramidates like adenosine 5'-monophosphoramidate (AMP-NH2) to produce AMP and NH2. Acting as a tumor suppressor, FHIT plays a role in modulating transcriptional activation by CTNNB1, influencing the expression of

	critical genes related to cell proliferation and survival, such as CCND1 and BIRC5. Furthermore, FHIT participates in apoptosis induction through SRC and AKT1 signaling pathways, inhibits MDM2-mediated proteasomal degradation of p53/TP53, and contributes to p53/TP53-mediated apoptosis. The apoptotic effect may involve FHIT's ability to bind Ap3A or related compounds, and it can also be attributed, in part, to its mitochondrial form, which enhances mitochondrial calcium uptake and sensitizes low-affinity Ca(2+) transporters.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA