Recombinant FHIT protein (His tag)

Catalog Number	544654
Synonyms	5'-adenosyl; AP3A hydrolase; AP3Aase; Adenosine 5'-monophosphoramidase FHIT; Adenylylsulfatase; Adenylylsulfate-ammonia adenylyltransferase; Diadenosine 5',5'''-P1,P3-triphosphate hydrolase; Dinucleosidetriphosphatase; Fragile histidine triad protein
Species	Human
Expression System	E. coli
Accession	P49789
Molecular Weight	Predictes a molecular mass of 18.51 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 19 kDa band.

Product Information

Sequence Region	1-147
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>86%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 1-147 aa (P49789) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human FHIT Protein Fragment (1-147) is a high-purity, functionally relevant fragment of Bis(5'-adenosyl)-triphosphatase (FHIT) that fully encompasses the critical HIT domain. This fragment serves as an essential tool for studying the enzymatic activities and tumor suppressor functions of FHIT, including its roles in nucleotide metabolism, apoptosis regulation, and cellular signaling pathways. The full-length FHIT protein (Bis(5'-adenosyl)-triphosphatase) is a multifunctional enzyme with several catalytic activities, primarily functioning as a dinucleoside triphosphate hydrolase that cleaves Ap3A to yield AMP and ADP. It also exhibits adenylylsulfatase, adenosine 5'-monophosphoramidase, and adenylylsulfate-ammonia adenylyltransferase activities. Beyond its enzymatic functions, FHIT plays crucial roles in apoptosis induction through SRC and AKT1 signaling pathways, modulates transcriptional activation by CTNNB1 to regulate cell proliferation genes, and inhibits MDM2-mediated degradation of p53/TP53. As a well-established tumor suppressor, FHIT localizes to the cytoplasm, mitochondria, and nucleus, where it contributes to maintaining cellular homeostasis and preventing malignant transformation. The protein's tumor suppressor activity depends on its ability to bind Ap3A or related compounds, though this function does not require catalytic activity.