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FHIT Blocking Peptide (N-Term)

Synthetic peptide
Catalog # BP21842a

Specification

FHIT Blocking Peptide (N-Term) - Product Information

Primary Accession P49789

FHIT Blocking Peptide (N-Term) - 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
The synthetic peptide sequence is selected from aa 39-54 of HUMAN FHIT

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

FHIT Blocking Peptide (N-Term) - 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-NH2) to yield AMP and NH2 (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 Blocking Peptide (N-Term) - Protocols

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

- Blocking Peptides

FHIT Blocking Peptide (N-Term) - Images

FHIT Blocking Peptide (N-Term) - 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.

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FHIT Blocking Peptide (N-Term) - References

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