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Anti-FHIT Antibody Picoband™ (monoclonal, 26H7)

Catalog # ABO14340

Specification

Anti-FHIT Antibody Picoband™ (monoclonal, 26H7) - Product Information

Application	**WB, IF, ICC, FC**
Primary Accession	P49789
Host	**Mouse**
Isotype	**Mouse IgG1**
Reactivity	**Human**
Clonality	**Monoclonal**
Format	**Lyophilized**

Description
Anti-FHIT Antibody Picoband™ (monoclonal, 26H7) . Tested in Flow Cytometry, IF, ICC, WB applications. This antibody reacts with Human.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-FHIT Antibody Picoband™ (monoclonal, 26H7) - Additional Information

Gene ID 2272

Other Names
Bis(5'-adenosyl)-triphosphatase, 3.6.1.29, AP3A hydrolase, AP3Aase, Adenosine 5'-monophosphoramidase FHIT, 3.9.1.-, Adenylylsulfatase, 3.6.2.1, Adenylylsulfate-ammonia adenylyltransferase, 2.7.7.51, Diadenosine 5', 5'''-P1, P3-triphosphate hydrolase, Dinucleosidetriphosphatase, Fragile histidine triad protein, FHIT

Calculated MW
17 kDa KDa

Application Details
Western blot, 0.1-0.5 µg/ml
 Immunocytochemistry/Immunofluorescence, 2 µg/ml
 Flow Cytometry, 1-3 µg/1x10^6 cells

Subcellular Localization
Cytoplasm. Mitochondrion. Nucleus.

Tissue Specificity
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.

Contents
Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.

Immunogen
E.coli-derived human FHIT recombinant protein (Position: M1-Q147). Human FHIT shares 90% and 87% amino acid (aa) sequence identity with mouse and rat FHIT, respectively.

Cross Reactivity
No cross-reactivity with other proteins.

Storage

Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.

Anti-FHIT Antibody Picoband™ (monoclonal, 26H7) - Protein Information

Name FHIT

Function
Possesses dinucleoside triphosphate hydrolase activity (PubMed:12574506, PubMed:15182206, PubMed:8794732, PubMed:9323207, PubMed:9543008, PubMed:9576908). Cleaves P(1)-P(3)-bis(5'-adenosyl) triphosphate (Ap3A) to yield AMP and ADP (PubMed:12574506, PubMed:15182206, PubMed:8794732, PubMed:9323207, PubMed:9543008, PubMed:9576908). 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

Anti-FHIT Antibody Picoband™ (monoclonal, 26H7) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-FHIT Antibody Picoband™ (monoclonal, 26H7) - Images

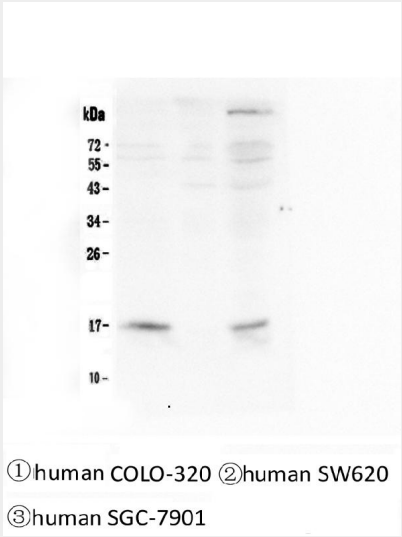

Figure 1. Western blot analysis of FHIT using anti-FHIT antibody (M01200).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.
Lane 1: human COLO-320 whole cell lysates,
Lane 2: human SW620 whole cell lysates,
Lane 3: human SGC-7901 whole cell lysates.
After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-FHIT antigen affinity purified monoclonal antibody (Catalog # M01200) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system.

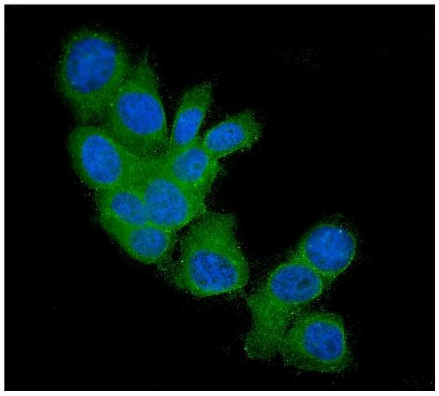

Figure 2. IF analysis of FHIT using anti-FHIT antibody (M01200).
FHIT was detected in immunocytochemical section of MCF7 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 2 µg/mL mouse anti-FHIT Antibody (M01200) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Mouse IgG (BA1126) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

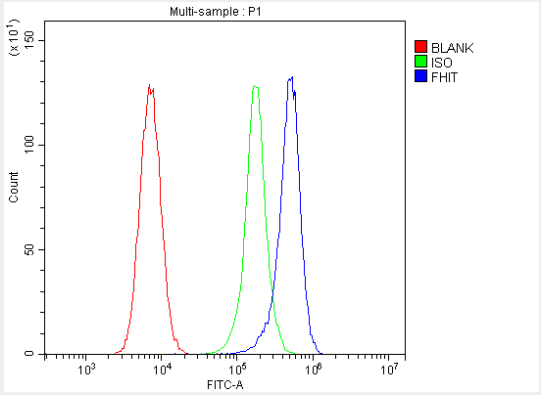

Figure 3. Flow Cytometry analysis of 293T cells using anti-FHIT antibody (M01200).
Overlay histogram showing 293T cells stained with M01200 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-FHIT Antibody (M01200,1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

Anti-FHIT Antibody Picoband™ (monoclonal, 26H7) - Background

Bis (5'-adenosyl)-triphosphatase, also known as fragile histidine triad protein (FHIT) is an enzyme that in humans is encoded by the FHIT gene. This gene, a member of the histidine triad gene family, encodes a diadenosine P1,P3-bis (5'-adenosyl)-triphosphate adenylohydrolase involved in purine metabolism. The gene encompasses the common fragile site FRA3B on chromosome 3p14.2, where carcinogen-induced damage can lead to translocations and aberrant transcripts of this gene. In fact, aberrant transcripts from this gene have been found in about half of all esophageal, stomach, and colon carcinomas. Furthermore, FHIT has been shown to synergize with VHL, another tumor suppressor, in protecting against chemically - induced lung cancer. It also acts as a tumor

suppressor of HER2/neu driven breast cancer.