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Anti-ATP5H in Antibody Picoband™ (monoclonal, 6B12)

Catalog # ABO14919

Specification

Anti-ATP5H in Antibody Picoband™ (monoclonal, 6B12) - Product Information

Application	**WB, IHC, IF, ICC**
Primary Accession	O75947
Host	**Mouse**
Isotype	**Mouse IgG2b**
Reactivity	**Rat, Human, Mouse, Monkey**
Clonality	**Monoclonal**
Format	**Lyophilized**

Description
Anti-ATP5H in Antibody Picoband™ (monoclonal, 6B12) . Tested in IF, IHC, ICC, WB applications. This antibody reacts with Human, Monkey, Mouse, Rat.

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

Anti-ATP5H in Antibody Picoband™ (monoclonal, 6B12) - Additional Information

Gene ID 10476

Other Names
ATP synthase subunit d, mitochondrial, ATPase subunit d, ATP synthase peripheral stalk subunit d, ATP5PD (HGNC:845), ATP5H

Calculated MW
22 kDa KDa

Application Details
Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat, Monkey
 Immunohistochemistry (Paraffin-embedded Section), 0.5-1 µg/ml, Human
 Immunocytochemistry/Immunofluorescence, 2 µg/ml, Human

Subcellular Localization
Mitochondrion. Mitochondrion inner membrane.

Protein Name
ATP synthase subunit d, mitochondrial

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

Immunogen
E.coli-derived human ATP5H recombinant protein (Position: A2-L161). Human ATP5H shares 81% and 78% amino acid (aa) sequence identity with mouse and rat ATP5H, respectively.

Purification
Immunogen affinity purified.

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-ATP5H in Antibody Picoband™ (monoclonal, 6B12) - Protein Information

Name ATP5PD (HGNC:845)

Synonyms ATP5H

Function
Subunit d, of the mitochondrial membrane ATP synthase complex (F(1)F(0) ATP synthase or Complex V) that produces ATP from ADP in the presence of a proton gradient across the membrane which is generated by electron transport complexes of the respiratory chain (PubMed:37244256). ATP synthase complex consist of a soluble F(1) head domain - the catalytic core - and a membrane F(1) domain - the membrane proton channel (PubMed:37244256). These two domains are linked by a central stalk rotating inside the F(1) region and a stationary peripheral stalk (PubMed:37244256). During catalysis, ATP synthesis in the catalytic domain of F(1) is coupled via a rotary mechanism of the central stalk subunits to proton translocation (Probable). In vivo, can only synthesize ATP although its ATP hydrolase activity can be activated artificially in vitro (By similarity). Part of the complex F(0) domain (PubMed:37244256). Part of the complex F(0) domain and the peripheric stalk, which acts as a stator to hold the catalytic alpha(3)beta(3) subcomplex and subunit a/ATP6 static relative to the rotary elements (By similarity).

Cellular Location
Mitochondrion. Mitochondrion inner membrane.

Anti-ATP5H in Antibody Picoband™ (monoclonal, 6B12) - 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-ATP5H in Antibody Picoband™ (monoclonal, 6B12) - Images

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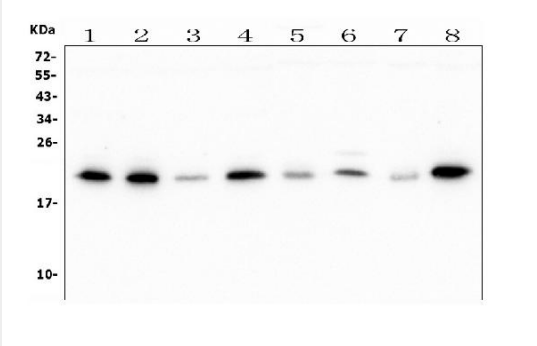

Figure 1. Western blot analysis of ATP5H using anti-ATP5H antibody (M09565).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.
Lane 1: human Hela tissue lysates,
Lane 2: human HepG2 whole cell lysates,
Lane 3: human U-87MG whole cell lysates,
Lane 4: human A549 whole cell lysates,
Lane 5: monkey COS-7 whole cell lysates,
Lane 6: human SW620 whole cell lysates.
Lane 7: rat PC-12 whole cell lysates.
Lane 8: mouse Ana-1 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-ATP5H antigen affinity purified polyclonal antibody (Catalog # M09565) 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. A specific band was detected for ATP5H at approximately 22KD. The expected band size for ATP5H is at 18KD.

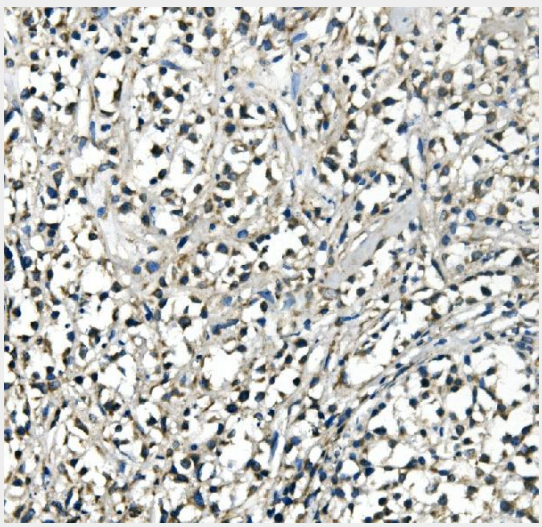

Figure 2. IHC analysis of ATP5H using anti-ATP5H antibody (M09565).
ATP5H was detected in paraffin-embedded section of human B lymphocytic tumorT tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-ATP5H Antibody (M09565) overnight at 4°C. Biotinylated goat anti-mouse IgG

was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

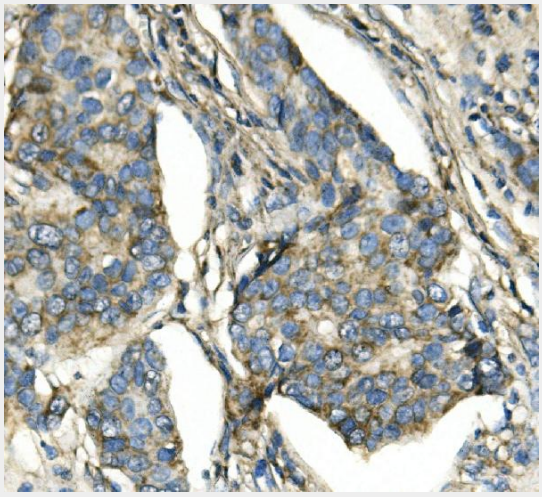

Figure 3. IHC analysis of ATP5H using anti-ATP5H antibody (M09565).
ATP5H was detected in paraffin-embedded section of human mammary cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-ATP5H Antibody (M09565) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

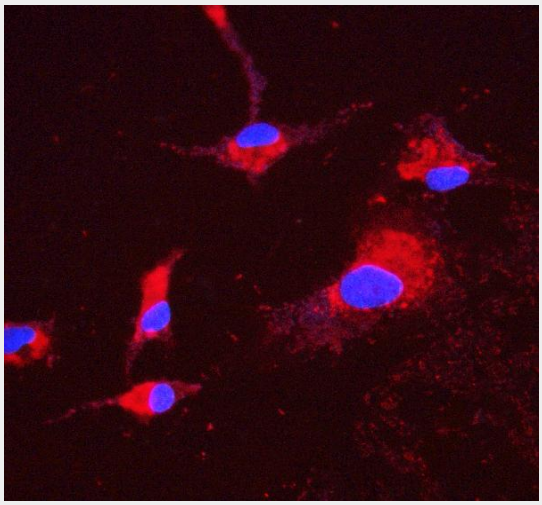

Figure 4. IF analysis of ATP5H using anti-ATP5H antibody (M09565).
ATP5H was detected in immunocytochemical section of A549 cell. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 2 µg/mL mouse anti-ATP5H Antibody (M09565) overnight at 4°C. Cy3 Conjugated Goat Anti-Mouse IgG (BA1031) 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.

Anti-ATP5H in Antibody Picoband™ (monoclonal, 6B12) - Background

ATP5H is also known as ATPQ. Mitochondrial ATP synthase catalyzes ATP synthesis, utilizing an electrochemical gradient of protons across the inner membrane during oxidative phosphorylation. It

is composed of two linked multi-subunit complexes: the soluble catalytic core, F1, and the membrane-spanning component, Fo, which comprises the proton channel. The F1 complex consists of 5 different subunits (alpha, beta, gamma, delta, and epsilon) assembled in a ratio of 3 alpha, 3 beta, and a single representative of the other 3. The Fo seems to have nine subunits (a, b, c, d, e, f, g, F6 and 8). This gene encodes the d subunit of the Fo complex. Alternatively spliced transcript variants encoding different isoforms have been identified for this gene. In addition, three pseudogenes are located on chromosomes 9, 12 and 15.