10320 Camino Santa Fe, Suite G
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Anti-ATP5F1,2,3/ATP5MC1,2,3 Picoband™ Antibody (monoclonal, 12E9)

Catalog # ABO15019

Specification

Anti-ATP5F1,2,3/ATP5MC1,2,3 Picoband™ Antibody (monoclonal, 12E9) - Product Information

Application	**WB, FC**
Primary Accession	P05496
Host	**Mouse**
Isotype	**Mouse IgG2b**
Reactivity	**Rat, Human, Mouse, Monkey**
Clonality	**Monoclonal**
Format	**Lyophilized**

Description
Anti-ATP5F1,2,3/ATP5MC1,2,3 Picoband™ Antibody (monoclonal, 12E9) . Tested in Flow Cytometry, WB applications. This antibody reacts with Human, Monkey, Mouse, Rat.

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

Anti-ATP5F1,2,3/ATP5MC1,2,3 Picoband™ Antibody (monoclonal, 12E9) - Additional Information

Gene ID 516

Other Names
ATP synthase F(0) complex subunit C1, mitochondrial, ATP synthase lipid-binding protein, ATP synthase membrane subunit c locus 1 {ECO:0000312|HGNC:HGNC:841}, ATP synthase proteolipid P1, ATP synthase proton-transporting mitochondrial F(0) complex subunit C1, ATPase protein 9, ATPase subunit c, ATP5MC1 (HGNC:841)

Calculated MW
10-14 kDa KDa

Application Details
Western blot, 0.25-0.5 µg/ml, Human, Mouse, Rat, Monkey
 Flow Cytometry, 1-3 µg/1x10^6 cells, Human, Mouse, Rat

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

Immunogen
E.coli-derived human ATP5G1,2,3/ATP5MC1,2,3 recombinant protein (Position: D62-L113).

Purification
Immunogen affinity purified.

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-ATP5F1,2,3/ATP5MC1,2,3 Picoband™ Antibody (monoclonal, 12E9) - Protein Information

Name ATP5MC1 (HGNC:841)

Function
Subunit c, 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 (Probable). 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). With the subunit a (MT- ATP6), forms the proton-conducting channel in the F(0) domain, that contains two crucial half-channels (inlet and outlet) that facilitate proton movement from the mitochondrial intermembrane space (IMS) into the matrix (PubMed:37244256). Protons are taken up via the inlet half- channel and released through the outlet half-channel, following a Grotthuss mechanism (PubMed:37244256).

Cellular Location
Mitochondrion membrane; Multi-pass membrane protein

Anti-ATP5F1,2,3/ATP5MC1,2,3 Picoband™ Antibody (monoclonal, 12E9) - 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-ATP5F1,2,3/ATP5MC1,2,3 Picoband™ Antibody (monoclonal, 12E9) - Images

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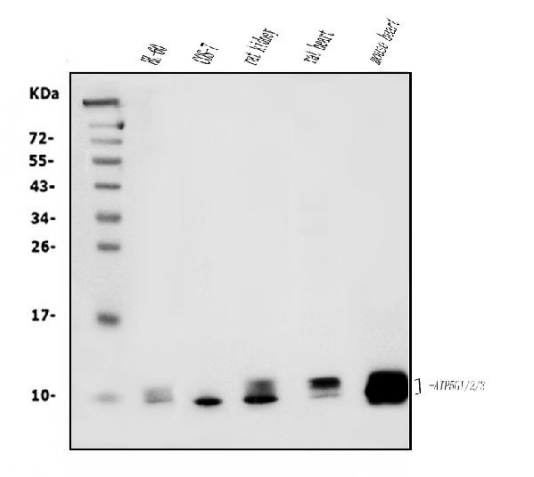

Figure 1. Western blot analysis of ATP5F1,2,3/ATP5MC1,2,3 using anti-ATP5F1,2,3/ATP5MC1,2,3 antibody (M09735).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.
Lane 1: human HL-60 whole cell lysates,
Lane 2: monkey COS-7 whole cell lysates,
Lane 3: rat kidney tissue lysates,
Lane 4: rat heart tissue lysates,
Lane 5: mouse heart tissue 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-ATP5F1,2,3/ATP5MC1,2,3 antigen affinity purified monoclonal antibody (Catalog # M09735) 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 ATP5F1,2,3/ATP5MC1,2,3 at approximately 10-14KD. The expected band size for ATP5F1,2,3/ATP5MC1,2,3 is at 10-14KD.

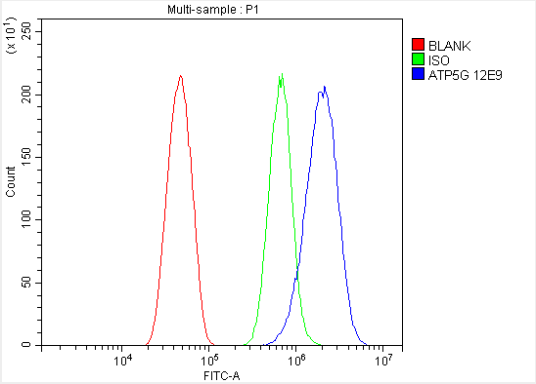

Figure 2. Flow Cytometry analysis of HEPA1-6 cells using anti-ATP5F1,2,3/ATP5MC1,2,3 antibody (M09735).
Overlay histogram showing HEPA1-6 cells stained with M09735 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-ATP5F1,2,3/ATP5MC1,2,3 Antibody (M09735, 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.

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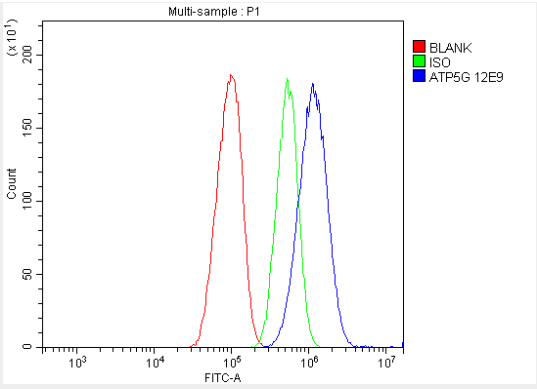

Figure 3. Flow Cytometry analysis of HEPG2 cells using anti-ATP5F1,2,3/ATP5MC1,2,3 antibody (M09735).
Overlay histogram showing HEPG2 cells stained with M09735 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-ATP5F1,2,3/ATP5MC1,2,3 Antibody (M09735, 1 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.

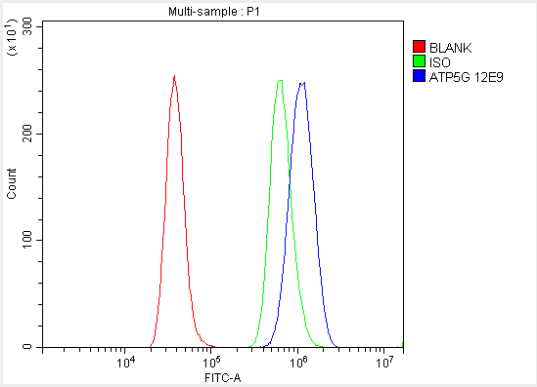

Figure 4. Flow Cytometry analysis of RH35 cells using anti-ATP5F1,2,3/ATP5MC1,2,3 antibody (M09735).
Overlay histogram showing RH35 cells stained with M09735 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-ATP5F1,2,3/ATP5MC1,2,3 Antibody (M09735, 1 µg/1x10^6 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-ATP5F1,2,3/ATP5MC1,2,3 Picoband™ Antibody (monoclonal, 12E9) - Background

The ATP5MC1 gene is one of three human paralogs that encode membrane subunit c of the mitochondrial ATP synthase. It is mapped to 17q21.32. This gene encodes a subunit of mitochondrial ATP synthase. Mitochondrial ATP synthase catalyzes ATP synthesis, utilizing an electrochemical gradient of protons across the inner membrane during oxidative phosphorylation. ATP synthase is composed of two linked multi-subunit complexes: the soluble catalytic core, F1, and the membrane-spanning component, Fo, comprising the proton channel. The catalytic portion of mitochondrial ATP synthase consists of 5 different subunits (alpha, beta, gamma, delta, and epsilon) assembled with a stoichiometry of 3 alpha, 3 beta, and a single representative of the other 3. The proton channel seems to have nine subunits (a, b, c, d, e, f, g, F6 and 8). This gene is one of three genes that encode subunit c of the proton channel. Each of the three genes have distinct mitochondrial import sequences but encode the identical mature protein. Alternatively spliced transcript variants encoding the same protein have been identified.