BOSTER BIOLOGICAL TECHNOLOGY
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Anti-COX IV COX4I1 Antibody Picoband® (monoclonal, 4G11)

Catalog Number: M05442-1

About COX4I1

Cytochrome c oxidase subunit 4 isoform 1, mitochondrial is an enzyme that in humans is encoded by the COX4I1 gene. Cytochrome c oxidase (COX) is the terminal enzyme of the mitochondrial respiratory chain. It is a multi-subunit enzyme complex that couples the transfer of electrons from cytochrome c to molecular oxygen and contributes to a proton electrochemical gradient across the inner mitochondrial membrane. The complex consists of 13 mitochondrial- and nuclear-encoded subunits. The mitochondrially-encoded subunits perform the electron transfer and proton pumping activities. The functions of the nuclear-encoded subunits are unknown but they may play a role in the regulation and assembly of the complex. This gene encodes the nuclear-encoded subunit IV isoform 1 of the human mitochondrial respiratory chain enzyme. It is located at the 3' of the NOC4 (neighbor of COX4) gene in a head-to-head orientation, and shares a promoter with it. Pseudogenes related to this gene are located on chromosomes 13 and 14.

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Overview

Product Name	Anti-COX IV COX4I1 Antibody Picoband® (monoclonal, 4G11)
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-COX IV COX4I1 Antibody Picoband® (monoclonal, 4G11) catalog # M05442-1. Tested in Flow Cytometry, IHC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	Flow Cytometry, IHC, WB
Clonality	Monoclonal 4G11
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Storage Instructions	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.
Host	Mouse
Uniprot ID	P13073

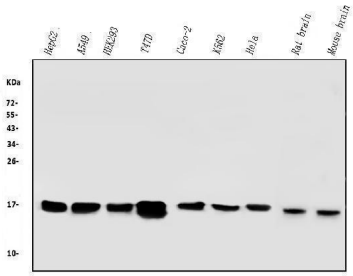
Technical Details

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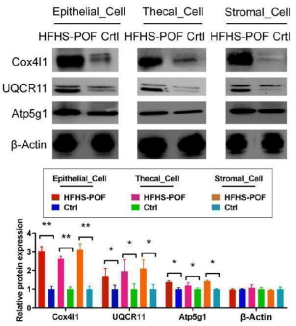
Immunogen	E. coli-derived human COX IV recombinant protein (Position: Q59-K169).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Mouse IgG (EK1001) for Western blot, and HRP Conjugated anti-Mouse IgG Super Vision Assay Kit (SV0001-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Mouse IgG2b
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.1-0.5ug/ml Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml Flow Cytometry (Fixed), 1-3ug/1x10^6 cells Note: For flow cytometry (FCM), suitable for fixed cells only. Not suitable for FACS or surface flow cytometry using live cells.

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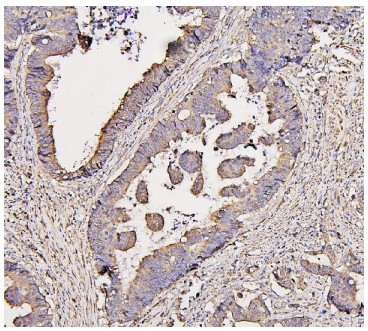
Anti-COX IV COX4I1 Antibody Picoband® (monoclonal, 4G11) (M05442-1) Images



Western blot analysis of COX IV using anti-COX IV antibody (M05442-1). 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 HEPG2 whole cell lysates, Lane 2: human A549 whole cell lysates, Lane 3: human HEK293 whole cell lysates, Lane 4: human T47D whole cell lysates, Lane 5: human CACO-2 whole cell lysates, Lane 6: human K562 whole cell lysates, Lane 7: human Hela whole cell lysates, Lane 8: rat brain tissue lysates, Lane 9: mouse brain 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-COX IV antigen affinity purified monoclonal antibody (Catalog # M05442-1) at 0.5 ug/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 COX IV at approximately 17KD. The expected band size for COX IV is at 17KD.



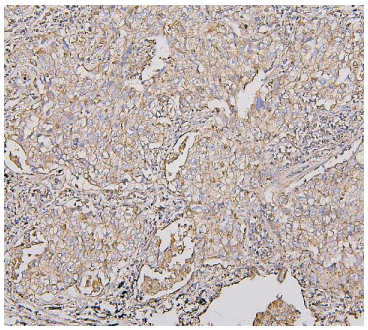
The results of western blot showed that protein expression levels of Cox4I1, Uqcr11, Atp5g1, and Atp5d were significantly lower in the Ctrl group than in the HFHS–POF group. (* $p < 0.05$ vs. Ctrl group; ** $p < 0.01$ vs. Ctrl group; t -test, n = 3).Index in PubMed under a CC BY license. PMID: 40979580



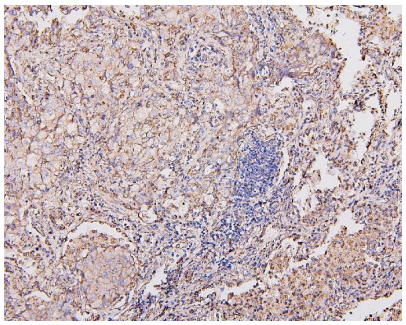
IHC analysis of COX IV using anti-COX IV antibody (M05442-1). COX IV was detected in paraffin-embedded section of human colon cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml mouse anti-COX IV Antibody (M05442-1) 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.

IHC analysis of COX IV using anti-COX IV antibody (M05442-1). COX IV was detected in paraffin-embedded section of human lung cancer tissue. Heat mediated antigen

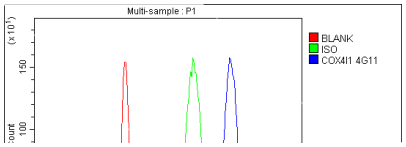
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Flow Cytometry analysis of U937 cells using anti- COX IV antibody (M05442-1). Overlay histogram showing U937 cells stained with M05442-1 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-COX IV Antibody (M05442-1, 1ug/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1ug/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

1 Publications Citing This Product

1. PubMed ID: 10.1016/j.bbrc.2017.07.112, Hypoxic postconditioning attenuates apoptosis via inactivation of adenosine A2a receptor through NDRG3-Raf-ERK pathway

Visit bosterbio.com/anti-cox-iv-picoband-trade-antibody-monoclonal-m05442-1-boster.html to see all 1 publications.

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