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antibody and ELISA experts

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Anti-MCU Antibody Picoband®

Catalog Number: A00685-1

About MCU

The mitochondrial calcium uniporter (MCU) is a transmembrane protein that allows the passage of calcium ions from a cell's cytosol into mitochondria. Its activity is regulated by MICU1 and MICU2, which together with the MCU make up the mitochondrial calcium uniporter complex. This gene encodes a calcium transporter that localizes to the mitochondrial inner membrane. The encoded protein interacts with mitochondrial calcium uptake 1. Alternative splicing results in multiple transcript variants.

Overview

Product Name	Anti-MCU Antibody Picoband®
Reactive Species	Human, Monkey, Mouse, Rat
Description	Boster Bio Anti-MCU Antibody Picoband® catalog # A00685-1. Tested in ELISA, Flow Cytometry, IHC, WB applications. This antibody reacts with Human, Monkey, 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	ELISA, Flow Cytometry, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.01mg 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	Rabbit
Uniprot ID	Q8NE86

Technical Details

Immunogen	E.coli-derived human MCU recombinant protein (Position: V51-D351).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.

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Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.25-0.5ug/ml, Human, Mouse, Rat, Monkey Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Human, Mouse, Rat Flow Cytometry (Fixed), 1-3ug/1x10^6 cells, Human ELISA, 0.1-0.5ug/ml, -

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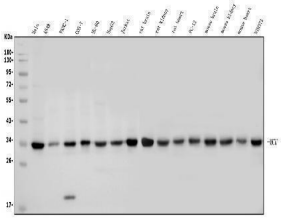
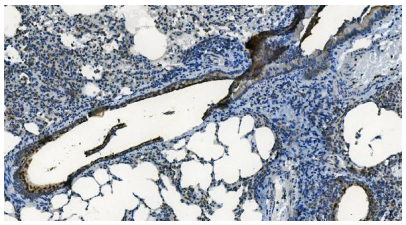
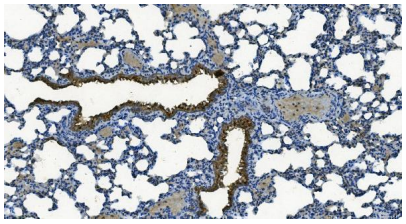
Anti-MCU Antibody Picoband® (A00685-1) Images



Western blot analysis of MCU using anti-MCU antibody (A00685-1). 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 HELA whole cell lysates, Lane 2: human A549 whole cell lysates, Lane 3: human PANC-1 whole cell lysates, Lane 4: monkey COS-7 whole cell lysates, Lane 5: human HL-60 whole cell lysates, Lane 6: human HEPG2 whole cell lysates, Lane 7: human Jurkat whole cell lysates, Lane 8: rat brain tissue lysates, Lane 9: rat kidney tissue lysates, Lane 10: rat heart tissue lysates, Lane 11: rat PC-12 whole cell lysates, Lane 12: mouse brain tissue lysates, Lane 13: mouse kidney tissue lysates, Lane 14: mouse heart tissue lysates, Lane 15: mouse NIH/3T3 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 rabbit anti-MCU antigen affinity purified polyclonal antibody (Catalog # A00685-1) 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-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for MCU at approximately 34KD. The expected band size for MCU is at 34KD.



IHC analysis of MCU using anti-MCU antibody (A00685-1). MCU was detected in paraffin-embedded section of mouse lung 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 2ug/ml rabbit anti-MCU Antibody (A00685-1) overnight at 4°C. Biotinylated goat anti-rabbit 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 # SA1022) with DAB as the chromogen.



IHC analysis of MCU using anti-MCU antibody (A00685-1). MCU was detected in paraffin-embedded section of rat lung 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 2ug/ml rabbit anti-MCU Antibody (A00685-1) overnight at 4°C. Biotinylated goat anti-rabbit 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 # SA1022) with DAB as the chromogen.

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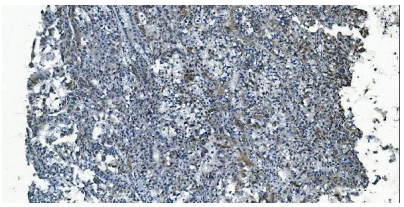
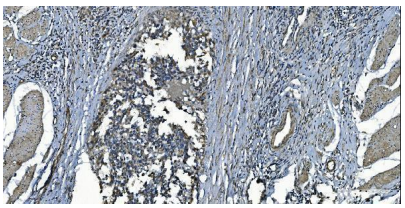
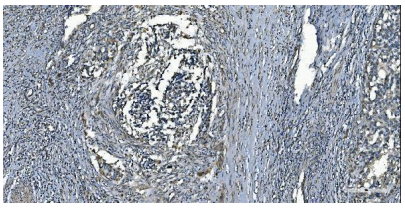


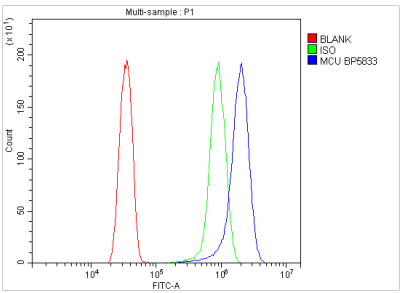
IHC analysis of MCU using anti-MCU antibody (A00685-1). MCU was detected in paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-MCU Antibody (A00685-1) overnight at 4°C. Biotinylated goat anti-rabbit 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 # SA1022) with DAB as the chromogen.



IHC analysis of MCU using anti-MCU antibody (A00685-1). MCU was detected in paraffin-embedded section of human bladder 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 2ug/ml rabbit anti-MCU Antibody (A00685-1) overnight at 4°C. Biotinylated goat anti-rabbit 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 # SA1022) with DAB as the chromogen.



IHC analysis of MCU using anti-MCU antibody (A00685-1). MCU was detected in paraffin-embedded section of human bladder 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 2ug/ml rabbit anti-MCU Antibody (A00685-1) overnight at 4°C. Biotinylated goat anti-rabbit 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 # SA1022) with DAB as the chromogen.



Flow Cytometry analysis of HELA cells using anti-MCU antibody (A00685-1). Overlay histogram showing HELA cells stained with A00685-1 (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 rabbit anti-MCU Antibody (A00685-1, 1ug/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit 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.

CRSJG protects the structure and function of MAMs in MPP + induced nerve cells. After treating with 1,000 umol/L MPP + -induced SH-SY5Y cells with 2.5% CRSJG-medicated serum or

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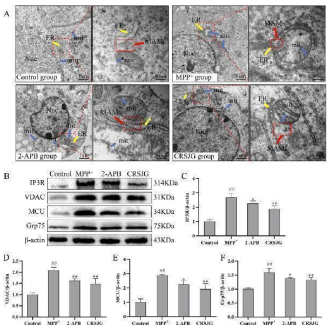

100 umol/L 2-APB for 24 h, (A) The microscopic structure of MAMs was observed by transmission electron microscope, magnification (×20,000), magnification of red rectangle box (×,100,000); (B) Western blot was used to detect the expression of major proteins in the Ca 2+ transport complex; (C) IP3R; (D) VDAC; (E) MCU; (F) Grp75. Results are from three independent experiments. M: # P < 0.05, ## P < 0.01 vs. control group; * P < 0.05, ** P < 0.01 vs. MPP + group. Index in Frontiersin under a CC BY license. DOI: 10.3389/fphar.2025.1509317

Anti-MCU Antibody

For Research Use Only. Not for use in diagnostic procedures.