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MCU Rabbit pAb

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Catalog # AP57775

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q8NE86
Reactivity	Rat, Mouse
Predicted	Pig, Dog, Human, Rabbit, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	39867
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human MCU
Epitope Specificity	251-351//351
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	Preservative: 0.02% Proclin300, Constituents: 1% BSA, 0.01M PBS, pH7.4.
SUBCELLULAR LOCATION	Membrane.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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. [provided by RefSeq, Jul 2012]

Additional Information

Gene ID	90550
Other Names	Calcium uniporter protein, mitochondrial, HsMCU, Coiled-coil domain-containing protein 109A, MCU {ECO:0000303|PubMed:21685886, ECO:0000312|HGNC:HGNC:23526}
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

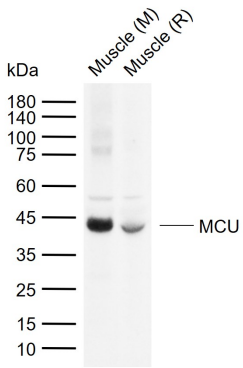
Name	MCU {ECO:0000303|PubMed:21685886, ECO:0000312|HGNC:HGNC:23526}

Function	Channel-forming and calcium-conducting subunit of the mitochondrial inner membrane calcium uniporter complex (uniplex), which mediates calcium uptake into the mitochondrial matrix (PubMed:21685886, PubMed:21685888, PubMed:22822213, PubMed:22829870, PubMed:22904319, PubMed:23101630, PubMed:23178883, PubMed:23755363, PubMed:24332854, PubMed:24560927, PubMed:26341627, PubMed:29954988, PubMed:29995857, PubMed:30454562, PubMed:30638448, PubMed:31080062, PubMed:32494073, PubMed:32762847, PubMed:33296646, PubMed:37036971, PubMed:37126688). MCU channel activity is regulated by the calcium-sensor subunits of the uniplex MICU1 and MICU2 (or MICU3) (PubMed:24560927, PubMed:26903221, PubMed:30454562, PubMed:30638448, PubMed:32494073, PubMed:32762847, PubMed:37036971, PubMed:37126688). Mitochondrial calcium homeostasis plays key roles in cellular physiology and regulates ATP production, cytoplasmic calcium signals and activation of cell death pathways (PubMed:21685886, PubMed:21685888, PubMed:22822213, PubMed:22829870, PubMed:22904319, PubMed:23101630, PubMed:23178883, PubMed:23755363, PubMed:24332854, PubMed:24560927, PubMed:26341627, PubMed:29954988, PubMed:32494073, PubMed:32762847). Involved in buffering the amplitude of systolic calcium rises in cardiomyocytes (PubMed:22822213). While dispensable for baseline homeostatic cardiac function, acts as a key regulator of short-term mitochondrial calcium loading underlying a 'fight-or-flight' response during acute stress: acts by mediating a rapid increase of mitochondrial calcium in pacemaker cells (PubMed:25603276). Participates in mitochondrial permeability transition during ischemia-reperfusion injury (By similarity). Mitochondrial calcium uptake in skeletal muscle cells is involved in muscle size in adults (By similarity). Regulates synaptic vesicle endocytosis kinetics in central nerve terminal (By similarity). Regulates glucose-dependent insulin secretion in pancreatic beta-cells by regulating mitochondrial calcium uptake (PubMed:22829870, PubMed:22904319). Involved in antigen processing and presentation (By similarity).
Cellular Location	Mitochondrion inner membrane; Multi-pass membrane protein

Background

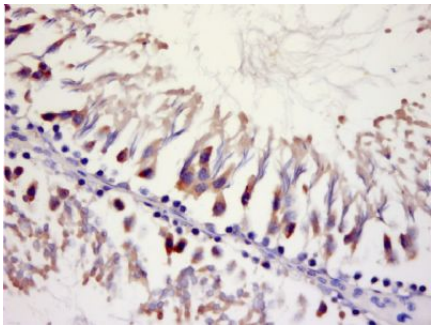
This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

Images



25 ug total protein per lane of various lysates (see on figure) probed with MCU polyclonal antibody, unconjugated (AP57775) at 1:1000 dilution and 4°C overnight incubation. Followed by conjugated secondary antibody incubation at r.t. for 60 min.

Paraformaldehyde-fixed, paraffin embedded (rat testis); Antigen retrieval by boiling in sodium citrate buffer



(pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (MCU) Polyclonal Antibody, Unconjugated (AP57775) at 1:500 overnight at 4°C, followed by a conjugated secondary (sp-0023) for 20 minutes and DAB staining.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.