

**MCU Antibody**  
Rabbit pAb  
Catalog # AP93210

## Specification

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### MCU Antibody - Product Information

Application	WB, IHC, ICC
Primary Accession	<a href="#">Q8NE86</a>
Reactivity	Rat, Human, Mouse
Clonality	Polyclonal
<b>Other Names</b>	
C10orf42; Calcium uniporter protein mitochondrial; Ccdc109a; HsMCU; Mitochondrial Calcium Uniporter;	
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	39867 Da

### MCU Antibody - Additional Information

Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human MCU
Description	Mitochondrial inner membrane calcium uniporter that mediates calcium uptake into mitochondria (PubMed:21685888, PubMed:21685886, PubMed:23101630, PubMed:22904319, PubMed:23178883, PubMed:22829870, PubMed:22822213, PubMed:24332854, PubMed:23755363, PubMed:26341627).
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

### MCU Antibody - 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 (unipler), which mediates calcium uptake into the mitochondrial matrix (PubMed:<a href="http://www.uniprot.org/citations/21685886" target="\_blank">21685886</a>, PubMed:<a href="http://www.uniprot.org/citations/21685888" target="\_blank">21685888</a>, PubMed:<a href="http://www.uniprot.org/citations/22822213" target="\_blank">22822213</a>, PubMed:<a href="http://www.uniprot.org/citations/22829870" target="\_blank">22829870</a>, PubMed:<a href="http://www.uniprot.org/citations/22904319" target="\_blank">22904319</a>),

PubMed: <a href="http://www.uniprot.org/citations/23101630" target="\_blank">23101630</a>, PubMed: <a href="http://www.uniprot.org/citations/23178883" target="\_blank">23178883</a>, PubMed: <a href="http://www.uniprot.org/citations/23755363" target="\_blank">23755363</a>, PubMed: <a href="http://www.uniprot.org/citations/24332854" target="\_blank">24332854</a>, PubMed: <a href="http://www.uniprot.org/citations/24560927" target="\_blank">24560927</a>, PubMed: <a href="http://www.uniprot.org/citations/26341627" target="\_blank">26341627</a>, PubMed: <a href="http://www.uniprot.org/citations/29954988" target="\_blank">29954988</a>, PubMed: <a href="http://www.uniprot.org/citations/29995857" target="\_blank">29995857</a>, PubMed: <a href="http://www.uniprot.org/citations/30454562" target="\_blank">30454562</a>, PubMed: <a href="http://www.uniprot.org/citations/30638448" target="\_blank">30638448</a>, PubMed: <a href="http://www.uniprot.org/citations/31080062" target="\_blank">31080062</a>, PubMed: <a href="http://www.uniprot.org/citations/32494073" target="\_blank">32494073</a>, PubMed: <a href="http://www.uniprot.org/citations/32762847" target="\_blank">32762847</a>, PubMed: <a href="http://www.uniprot.org/citations/33296646" target="\_blank">33296646</a>, PubMed: <a href="http://www.uniprot.org/citations/37036971" target="\_blank">37036971</a>, PubMed: <a href="http://www.uniprot.org/citations/37126688" target="\_blank">37126688</a>). MCU channel activity is regulated by the calcium-sensor subunits of the uniplex MICU1 and MICU2 (or MICU3) (PubMed: <a href="http://www.uniprot.org/citations/24560927" target="\_blank">24560927</a>, PubMed: <a href="http://www.uniprot.org/citations/26903221" target="\_blank">26903221</a>, PubMed: <a href="http://www.uniprot.org/citations/30454562" target="\_blank">30454562</a>, PubMed: <a href="http://www.uniprot.org/citations/30638448" target="\_blank">30638448</a>, PubMed: <a href="http://www.uniprot.org/citations/32494073" target="\_blank">32494073</a>, PubMed: <a href="http://www.uniprot.org/citations/32762847" target="\_blank">32762847</a>, PubMed: <a href="http://www.uniprot.org/citations/37036971" target="\_blank">37036971</a>, PubMed: <a href="http://www.uniprot.org/citations/37126688" target="\_blank">37126688</a>). Mitochondrial calcium homeostasis plays key roles in cellular physiology and regulates ATP production, cytoplasmic calcium signals and activation of cell death pathways (PubMed: <a href="http://www.uniprot.org/citations/21685886" target="\_blank">21685886</a>, PubMed: <a href="http://www.uniprot.org/citations/21685888" target="\_blank">21685888</a>, PubMed: <a href="http://www.uniprot.org/citations/22822213" target="\_blank">22822213</a>, PubMed: <a href="http://www.uniprot.org/citations/22829870" target="\_blank">22829870</a>, PubMed: <a href="http://www.uniprot.org/citations/22904319" target="\_blank">22904319</a>, PubMed: <a href="http://www.uniprot.org/citations/23101630" target="\_blank">23101630</a>, PubMed: <a href="http://www.uniprot.org/citations/23178883" target="\_blank">23178883</a>, PubMed: <a href="http://www.uniprot.org/citations/23755363" target="\_blank">23755363</a>, PubMed: <a href="http://www.uniprot.org/citations/24332854" target="\_blank">24332854</a>, PubMed: <a href="http://www.uniprot.org/citations/24560927" target="\_blank">24560927</a>, PubMed: <a href="http://www.uniprot.org/citations/26341627" target="\_blank">26341627</a>, PubMed: <a href="http://www.uniprot.org/citations/29954988" target="\_blank">29954988</a>, PubMed: <a href="http://www.uniprot.org/citations/32494073" target="\_blank">32494073</a>, PubMed: <a href="http://www.uniprot.org/citations/32762847" target="\_blank">32762847</a>). Involved in buffering the amplitude of systolic calcium rises in cardiomyocytes (PubMed: <a href="http://www.uniprot.org/citations/22822213" target="\_blank">22822213</a>). 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: <a href="http://www.uniprot.org/citations/25603276" target="\_blank">25603276</a>). 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: <a href="http://www.uniprot.org/citations/22829870" target="\_blank">22829870</a>, PubMed: <a href="http://www.uniprot.org/citations/22904319" target="\_blank">22904319</a>). Involved in antigen processing and presentation (By similarity).

## Cellular Location

Mitochondrion inner membrane; Multi-pass membrane protein

### MCU Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### MCU Antibody - Images

