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CCDC109A Recombinant Rabbit mAb

Catalog # AP100307

Product Information

Application	WB, IHC-P, IHC-F, IF, IP, E
Primary Accession	Q8NE86
Other Accession	Q8NE86
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Recombinant
Calculated MW	39867
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the CCDC109 family.
SUBUNIT	Component of the uniplex complex, composed of MCU, MCUB, MICU1, MICU2 and EMRE/SMDT1. Heterotetramer with CCDC109B/MCUB; this inhibits channel activity. Homotetramer. Interacts with MICU1; MICU1 acts as an essential regulator for MCU. Interacts with MCUR1; interaction with MICU1 and MCUR1 are mutually exclusive.
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	C10orf42; CCDC109A; HsMCU; 2010012O16Rik; D130073L02Rik; Gm64; MCU_HUMAN; MCU; Coiled-coil domain-containing protein 109A; MCU_MOUSE; mitochondrial calcium uniporter; coiled-coil domain containing 109A; Calcium uniporter protein mitochondrial; Calcium uniporter protein; mitochondrial
Dilution	IHC-P=1:50-200,IHC-F=1:50-200,WB=1:500-2000,IF=1:50-200,ELISA=1:5000-10000,IP=1:50-200
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

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