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MICU1 Antibody - C-terminal region
Rabbit Polyclonal Antibody
Catalog # AI15388

Specification

MICU1 Antibody - C-terminal region - Product Information

Application	**WB**
Primary Accession	Q9BPX6
Other Accession	NM_001195519, NP_001182448
Reactivity	**Human, Mouse, Rat, Rabbit, Pig, Goat, Horse, Bovine, Guinea Pig, Dog**
Predicted	**Human, Mouse, Rat, Rabbit, Pig, Goat, Horse, Bovine, Guinea Pig, Dog**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**30kDa KDa**

MICU1 Antibody - C-terminal region - Additional Information

Gene ID 10367

Alias Symbol	**CALC, DKFZp564C246, EFHA3, FLJ12684, CBARA1**

Other Names
Calcium uptake protein 1, mitochondrial, Atopy-related autoantigen CALC, ara CALC, Calcium-binding atopy-related autoantigen 1, Hom s 4, MICU1, CALC, CBARA1

Format
Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.

Reconstitution & Storage
Add 50 ul of distilled water. Final anti-MICU1 antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at 20°C. Avoid repeat freeze-thaw cycles.

Precautions
MICU1 Antibody - C-terminal region is for research use only and not for use in diagnostic or therapeutic procedures.

MICU1 Antibody - C-terminal region - Protein Information

Name MICU1 {ECO:0000303|PubMed:20693986, ECO:0000312|HGNC:HGNC:1530}

Function
Calcium sensor of the mitochondrial calcium uniporter (MCU) channel, which senses calcium level via its EF-hand domains (PubMed:20693986, PubMed:23101630, PubMed:23747253, PubMed:<a href="http://www.uniprot.org/citations/24313810"

target="_blank">24313810, PubMed:24332854, PubMed:24503055, PubMed:24560927, PubMed:26341627, PubMed:26903221, PubMed:27099988, PubMed:28615291, PubMed:30454562, PubMed:30638448, PubMed:32494073, PubMed:32667285, PubMed:32762847, PubMed:32790952, PubMed:34463251, PubMed:36206740, PubMed:37036971, PubMed:37126688). MICU1 and MICU2 (or MICU3) form a disulfide-linked heterodimer that stimulates and inhibits MCU activity, depending on the concentration of calcium (PubMed:24560927, PubMed:26903221, PubMed:28615291, PubMed:32148862, PubMed:32494073, PubMed:32667285, PubMed:32762847, PubMed:32790952, PubMed:36206740, PubMed:37036971, PubMed:37126688). At low calcium levels, MICU1 occludes the pore of the MCU channel, preventing mitochondrial calcium uptake (PubMed:32494073, PubMed:32667285, PubMed:32762847, PubMed:37036971, PubMed:37126688). At higher calcium levels, calcium-binding to MICU1 and MICU2 (or MICU3) induces a conformational change that weakens MCU-MICU1 interactions and moves the MICU1-MICU2 heterodimer away from the pore, allowing calcium permeation through the MCU channel (PubMed:32494073, PubMed:32667285, PubMed:32762847). Also required to protect against manganese toxicity by preventing manganese uptake by MCU: mechanistically, manganese- binding to its EF-hand domains does not induce any conformational change, maintaining MCU pore occlusion (PubMed:30082385, PubMed:30403999). Also acts as a barrier for inhibitors of the MCU channel, such as ruthenium red or its derivative Ru360 (PubMed:37244260). Acts as a regulator of mitochondrial cristae structure independently of its ability to regulate the mitochondrial calcium uniporter channel (PubMed:31427612, PubMed:37098122). Regulates glucose-dependent insulin secretion in pancreatic beta-cells by regulating mitochondrial calcium uptake (PubMed:22904319). Induces T- helper 1-mediated autoreactivity, which is accompanied by the release of IFNG (PubMed:<a

href="http://www.uniprot.org/citations/16002733" target="_blank">16002733).

Cellular Location
Mitochondrion intermembrane space. Mitochondrion inner membrane. Note=Recruited to the mitochondrial inner membrane by EMRE/SMDT1 (PubMed:30454562). Also localizes to mitochondrial cristae junctions (PubMed:31427612)

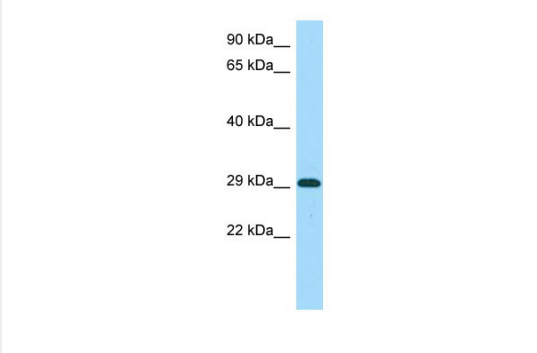
Tissue Location
Expressed in epithelial cell lines. Strongly expressed in epidermal keratinocytes and dermal endothelial cells

MICU1 Antibody - C-terminal region - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

MICU1 Antibody - C-terminal region - Images



WB Suggested Anti-MICU1 Antibody Titration: 1.0 µg/ml
Positive Control: MCF7 Whole CellMICU1 is supported by BioGPS gene expression data to be expressed in MCF7

MICU1 Antibody - C-terminal region - References

Ota T.,et al.Nat. Genet. 36:40-45(2004).
Wiemann S.,et al.Genome Res. 11:422-435(2001).
Deloukas P.,et al.Nature 429:375-381(2004).
Mural R.J.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.
Natter S.,et al.FASEB J. 12:1559-1569(1998).