

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: <http://www.uniprot.org/citations/20693986> target="_blank">20693986, PubMed: <http://www.uniprot.org/citations/23101630> target="_blank">23101630, PubMed: <http://www.uniprot.org/citations/23747253> target="_blank">23747253, PubMed: <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: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

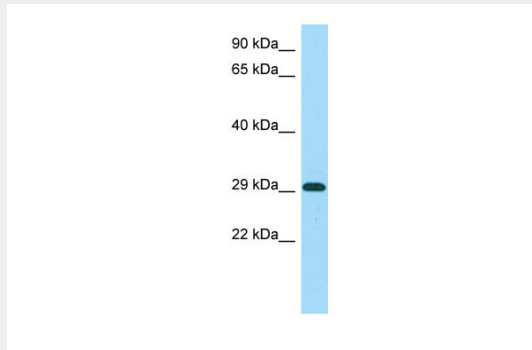
Expressed in epithelial cell lines. Strongly expressed in epidermal keratinocytes and dermal endothelial cells

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 Cytometry](#)
- [Cell Culture](#)

MICU1 Antibody - C-terminal region - Images



WB Suggested Anti-MICU1 Antibody Titration: 1.0 µg/ml

Positive Control: MCF7 Whole Cell
MICU1 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).