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EFHA2 Rabbit pAb

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Catalog # AP94841

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q86XE3
Reactivity	Mouse
Predicted	Human, Rat, Dog, Horse, Rabbit, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	60711
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human EFHA2
Epitope Specificity	451-530/530
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Mitochondrion (By similarity). Membrane; Single-pass membrane protein (Potential).
SIMILARITY	Contains 2 EF-hand domains.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

Additional Information

Gene ID	286097
Other Names	Calcium uptake protein 3, mitochondrial, hMICU3, EF-hand domain-containing family member A2, MICU3 {ECO:0000303|PubMed:30699349, ECO:0000312|HGNC:HGNC:27820}
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500
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	MICU3 {ECO:0000303|PubMed:30699349, ECO:0000312|HGNC:HGNC:27820}
Function	Tissue-specific calcium sensor of the mitochondrial calcium uniporter (MCU) channel, which specifically regulates MCU channel activity in the central

	nervous system and skeletal muscle (PubMed:29725115). Senses calcium level via its EF-hand domains: compared to MICU1 and MICU2, MICU3 has a higher affinity for calcium (PubMed:29725115). MICU1 and MICU3 form a disulfide-linked heterodimer that stimulates and inhibits MCU activity, depending on the concentration of calcium (PubMed:29725115). At low calcium levels, MICU1 occludes the pore of the MCU channel, preventing mitochondrial calcium uptake (PubMed:29725115). At higher calcium levels, calcium- binding to MICU1 and MICU3 induces a conformational change that weakens MCU-MICU1 interactions and moves the MICU1-MICU3 heterodimer away from the pore, allowing calcium permeation through the MCU channel (PubMed:29725115). The high calcium affinity of MICU3 lowers the calcium threshold necessary for calcium permeation through the MCU channel (PubMed:29725115). The MICU1-MICU3 heterodimer promotes flexibility of neurotransmission in neuronal cells by enhancing mitochondrial calcium uptake in presynapses (PubMed:29725115). It is also required to increase mitochondrial calcium uptake in skeletal muscle cells, thereby increasing ATP production (By similarity).
Cellular Location	Mitochondrion intermembrane space {ECO:0000250|UniProtKB:Q8IYU8}. Mitochondrion inner membrane {ECO:0000250|UniProtKB:Q8IYU8}. Note=Recruited to the mitochondrial inner membrane via its association with the uniplex complex {ECO:0000250|UniProtKB:Q8IYU8}
Tissue Location	Specifically expressed in the central nervous system and skeletal muscle.

Background

MICU3 (Mitochondrial Calcium Uptake Family Member 3) is a Protein Coding gene. Gene Ontology (GO) annotations related to this gene include calcium ion binding. An important paralog of this gene is MICU2.