10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

EFHA1 Rabbit pAb

EFHA1 Rabbit pAb
Catalog # AP59102

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	Q8IYU8
Predicted	Human, Mouse, Rat, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	49666
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human EFHA1
Epitope Specificity	351-434/434
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Contains 4 EF-hand domains.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The EF-hand domain is a twelve amino acid loop motif that is commonly found in proteins that participate in calcium-binding events within the cell. EF-hand domains generally exist in a pair that, together, form a stable four-helix bundle that enables the binding of calcium ions. EF-HA1 (EF-hand domain family, member A1) is a 434 amino acid protein that contains four EF-hand domains, suggesting a role in calcium-mediated events throughout the cell. The gene encoding EF-HA1 maps to human chromosome 13, which houses over 400 genes, such as BRCA2 and RB1, and comprises nearly 4% of the human genome. Trisomy 13, also known as Patau syndrome, is deadly and the few who survive past one year suffer from permanent neurologic defects, difficulty eating and vulnerability to serious respiratory infections.

Additional Information

Gene ID	221154
Other Names	Calcium uptake protein 2, mitochondrial, hMICU3, EF-hand domain-containing family member A1 {ECO:0000312|HGNC:HGNC:31830}, MICU2 {ECO:0000303|PubMed:24231807, ECO:0000312|HGNC:HGNC:31830}
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,ELISA=1:5000-10000
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	MICU2 {ECO:0000303|PubMed:24231807, ECO:0000312|HGNC:HGNC:31830}
Function	Calcium sensor of the mitochondrial calcium uniporter (MCU) channel, which senses calcium level via its EF-hand domains (PubMed:24503055, PubMed:24560927, PubMed:26903221, PubMed:28615291, PubMed:30699349, PubMed:31397067, PubMed:32494073, PubMed:32667285, PubMed:32762847, PubMed:32790952). MICU1 and MICU2 form a disulfide- linked heterodimer that stimulates and inhibits MCU activity, depending on the concentration of calcium (PubMed:24560927, PubMed:26903221, PubMed:28615291, PubMed:30699349, PubMed:31397067, PubMed:32148862, PubMed:32494073, PubMed:32667285, PubMed:32762847, PubMed:32790952). At low calcium levels, MICU1 occludes the pore of the MCU channel, preventing mitochondrial calcium uptake (PubMed:32494073, PubMed:32667285, PubMed:32762847). At higher calcium levels, calcium- binding to MICU1 and MICU2 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).
Cellular Location	Mitochondrion intermembrane space Mitochondrion inner membrane Note=Recruited to the mitochondrial inner membrane via its association with the uniplex complex.

Background

The EF-hand domain is a twelve amino acid loop motif that is commonly found in proteins that participate in calcium-binding events within the cell. EF-hand domains generally exist in a pair that, together, form a stable four-helix bundle that enables the binding of calcium ions. EF-HA1 (EF-hand domain family, member A1) is a 434 amino acid protein that contains four EF-hand domains, suggesting a role in calcium-mediated events throughout the cell. The gene encoding EF-HA1 maps to human chromosome 13, which houses over 400 genes, such as BRCA2 and RB1, and comprises nearly 4% of the human genome. Trisomy 13, also known as Patau syndrome, is deadly and the few who survive past one year suffer from permanent neurologic defects, difficulty eating and vulnerability to serious respiratory infections.