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

MCOLN1 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP13551B

Product Information

Application	WB, IHC-P, E
Primary Accession	Q9GZU1
Other Accession	Q99J21, Q60HE8, NP_065394.1
Reactivity	Human
Predicted	Mouse, Monkey, Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB33839
Calculated MW	65022
Antigen Region	531-560

Additional Information

Gene ID	57192
Other Names	Mucolipin-1, MG-2, Mucolipidin, MCOLN1, ML4
Target/Specificity	This MCOLN1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 531-560 amino acids from the C-terminal region of human MCOLN1.
Dilution	WB~~1:2000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	MCOLN1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MCOLN1 {ECO:0000303|PubMed:25720963, ECO:0000312|HGNC:HGNC:13356}
Function	Nonselective cation channel probably playing a role in the regulation of membrane trafficking events and of metal homeostasis (PubMed:11013137,

	PubMed:12459486, PubMed:14749347, PubMed:15336987, PubMed:18794901, PubMed:25720963, PubMed:27623384, PubMed:29019983). Acts as a Ca(2+)-permeable cation channel with inwardly rectifying activity (PubMed:25720963, PubMed:29019983). Proposed to play a major role in Ca(2+) release from late endosome and lysosome vesicles to the cytoplasm, which is important for many lysosome-dependent cellular events, including the fusion and trafficking of these organelles, exocytosis and autophagy (PubMed:11013137, PubMed:12459486, PubMed:14749347, PubMed:15336987, PubMed:25720963, PubMed:27623384, PubMed:29019983). Required for efficient uptake of large particles in macrophages in which Ca(2+) release from the lysosomes triggers lysosomal exocytosis. May also play a role in phagosome-lysosome fusion (By similarity). Involved in lactosylceramide trafficking indicative for a role in the regulation of late endocytic membrane fusion/fission events (PubMed:16978393). By mediating lysosomal Ca(2+) release is involved in regulation of mTORC1 signaling and in mTOR/TFEB-dependent lysosomal adaptation to environmental cues such as nutrient levels (PubMed:25720963, PubMed:25733853, PubMed:27787197). Seems to act as lysosomal active oxygen species (ROS) sensor involved in ROS-induced TFEB activation and autophagy (PubMed:27357649). Also functions as a Fe(2+) permeable channel in late endosomes and lysosomes (PubMed:18794901). Also permeable to Mg(2+), Na(+), K(+) and Cs(+) (By similarity). Proposed to play a role in zinc homeostasis probably implicating its association with TMEM163 (PubMed:25130899) In adaptive immunity, TRPML2 and TRPML1 may play redundant roles in the function of the specialized lysosomes of B cells (By similarity).
Cellular Location	Late endosome membrane; Multi-pass membrane protein. Lysosome membrane; Multi-pass membrane protein. Cytoplasmic vesicle membrane; Multi-pass membrane protein. Cell projection, phagocytic cup {ECO:0000250|UniProtKB:Q99J21}. Cytoplasmic vesicle, phagosome membrane {ECO:0000250|UniProtKB:Q99J21}; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein. Note=Delivery from the trans-Golgi to lysosomes seems to occur mainly in a direct intracellular manner without intermediate delivery to the plasma membrane (PubMed:16497227) Under normal conditions, restricted to intracellular compartments so that only a very minor proportion is present at the cell membrane (PubMed:12459486, PubMed:18794901, PubMed:28112729, PubMed:29019983)
Tissue Location	Widely expressed in adult and fetal tissues.

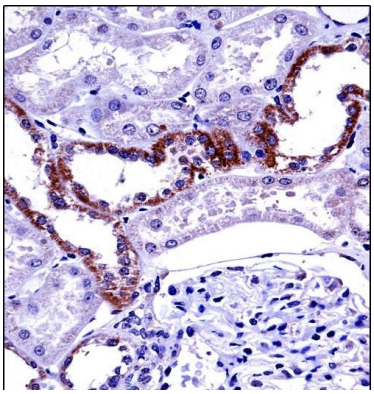
Background

This gene encodes a memberof the transient receptor potential (TRP) cation channel gene family. The transmembrane protein localizes to intracellular vesicular membranes including lysosomes, and functions in the late endocytic pathway and in the regulation of lysosomal exocytosis. The channel is permeable to Ca(2+), Fe(2+), Na(+), K(+), and H(+), and is modulated by changes in Ca(2+) concentration. Mutations in this gene result in mucolipidosis type IV.

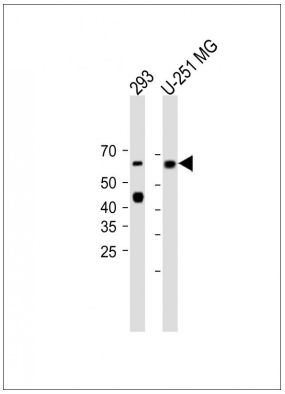
References

Eichelsdoerfer, J.L., et al. J. Biol. Chem. 285(45):34304-34308(2010)
Curcio-Morelli, C., et al. J. Cell. Physiol. 222(2):328-335(2010)
Vergarajauregui, S., et al. J. Biol. Chem. 284(52):36357-36366(2009)
Ballif, B.A., et al. Mol. Cell Proteomics 3(11):1093-1101(2004)
LaPlante, J.M., et al. FEBS Lett. 532 (1-2), 183-187 (2002) :

Images



MCOLN1 Antibody (C-term) (AP13551b)immunohistochemistry analysis in formalin fixed and paraffin embedded human kidney tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of MCOLN1 Antibody (C-term) for immunohistochemistry. Clinical relevance has not been evaluated.



All lanes: Anti-MCOLN1 Antibody (C-term) at 1:2000 dilution Lane 1: 293 whole cell lysate Lane 2: U-251 MG whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size: 65KDa Blocking/Dilution buffer: 5% NFDM/TBST.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.