

Product datasheet for **TA328758**

Mcoln2 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	IF, IHC, WB
Recommended Dilution:	WB: 1:200-1:2000; IHC: 1:100-1:3000
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide (C)RLDFYRLVQVDISFALK, corresponding to amino acid residues 212-228 of mouse TRPML2. Intracellular, N-terminus.
Formulation:	Lyophilized. Concentration before lyophilization ~0.8mg/ml (lot dependent, please refer to CoA along with shipment for actual concentration). Buffer before lyophilization: Phosphate buffered saline (PBS), pH 7.4, 1% BSA, 0.05% NaN ₃ .
Reconstitution Method:	Add 50 ul double distilled water (DDW) to the lyophilized powder.
Purification:	Affinity purified on immobilized antigen.
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	mucolipin 2
Database Link:	NP_080932 Entrez Gene 255231 Human Entrez Gene 292168 Rat Entrez Gene 68279 Mouse Q8K595



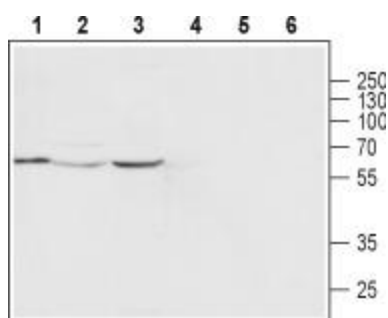
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Background:

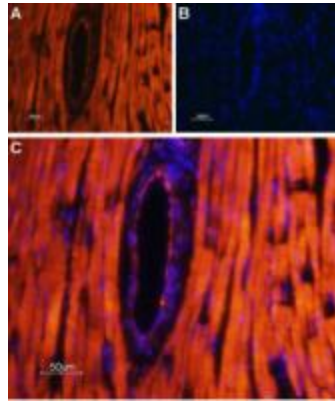
The endolysosome system takes part in important cellular functions such as membrane trafficking, protein transport, autophagy and signal transduction. Endosomes result from endocytosis of the plasma membrane and lysosomes (which are derived from late endosomes) contain mainly hydrolytic enzymes and generally have a low internal pH. Like the endoplasmic reticulum (ER), endolysosomes also store Ca²⁺ (luminal Ca²⁺ concentration: 0.5 mM), and similarly to Ca²⁺ release from the ER, Ca²⁺ from endolysosomes may also play an important role in various signaling events. To date such candidates include members of the TRP super-family of ion channels and the two-pore Ca²⁺ channels (TPCs). TRPMLs, also termed mucolipins, are members of the TRP channels. In mammals, three TRPMLs are known to date (TRPML1-3 or MCOLN1-3). They are all localized to endolysosomes, although when over expressed in heterologous systems, TRPML3 is found on the plasma membrane. These channels are Ca²⁺ permeable and display inward rectifying current properties. Like all members of this family, TRPMLs have six transmembrane domains and intracellular N- and C-termini (relatively short tails compared to other members). They are characterized by an exceptionally large extracellular (luminal) loop between transmembrane domains 1 and 2, and N-glycosylation sites are present in the first extracellular (luminal) loop. In mammals, TRPML1 is expressed in a ubiquitous manner and shows highest expression in the brain, kidney, spleen, liver and heart. TRPML2 and TRPML3 are less widely expressed. Interestingly, in mouse, two splice variants exist for TRPML2. The shorter variant is more broadly expressed and is dominant over the longer variant in the thymus, spleen and kidney. TRPML3 is highly detected in the thymus, lung, kidney, spleen and eye, some epithelial cells and brain. Pathologies related to these channels include type IV mucopolipidosis, a neurodegenerative disease characterized by retardation and retinal degeneration caused by a loss of function mutation in the gene encoding TRPML1. In contrast, a gain of function mutation in TRPML3, in mice, causes deafness, and pigmentation defects.

Synonyms:

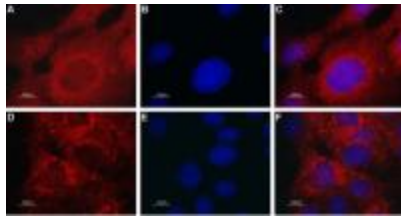
FLJ36691; TRP-ML2; TRPML2

Product images:

Western blot analysis of MCF-7 (lanes 1 and 4), rat heart (lanes 2 and 5) and mouse heart (lanes 3 and 6) lysates: 1-3. Anti-TRPML2 antibody, (1:200). 4-6. Anti-TRPML2 antibody, preincubated with the control peptide antigen.



Expression of TRPML2 in rat heart. Immunohistochemical staining of rat heart paraffin-embedded sections using Anti-TRPML2 antibody, followed by AlexaFluor-555 secondary antibody. A. TRPML2 labeling appears specifically in the cardiac muscle fibers and in a lesser intensity in the endothelium. It does not appear in the smooth muscle fibers of blood vessels. B. Nuclear staining using DAPI as the counterstain. C. Merged images of A and B.



Expression of TRPML2 in mouse muscle myoblast (C2C12) cell line. Immunocytochemical staining of TRPML2 in C2C12 cells. A. Cells were stained with Anti-TRPML2 antibody, (red), (1:50) followed by goat anti-rabbit-AlexaFluor-594 secondary antibody. B. DAPI is used as the counter staining (blue). C. Merged images of A and B.