

Product datasheet for **TA328788**

Atp2a1 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:	Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide (C)TPDQVQRHLEKYG, corresponding to amino acid residues 25-37 of rat SERCA1. Cytoplasmic, 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:	ATPase sarcoplasmic/endoplasmic reticulum Ca ²⁺ transporting 1
Database Link:	NP_478120 Entrez Gene 11937 Mouse Entrez Gene 116601 Rat Q64578



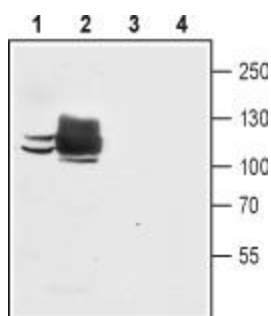
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Background:

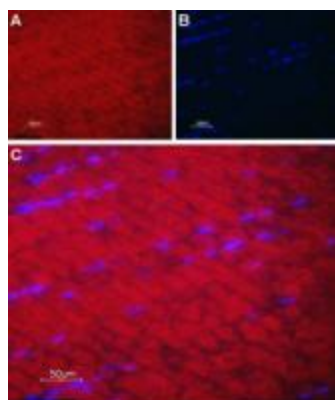
Three Ca²⁺ ATPases have been described in mammalian cells. They are located in the plasma membrane, endoplasmic reticulum or the Golgi apparatus. SERCA pumps are located in both the endoplasmic reticulum and in the Golgi membranes. They are known to transport two Ca²⁺ molecules per hydrolysis of one ATP. Their structure includes ten transmembrane domains and their main role is to remove cytoplasmic Ca²⁺ ions in order to promote muscle relaxation. In mammals three genes encode three SERCA pumps. Each transcript undergoes tissue-dependent alternative splicing. SERCA1a and 1b are expressed in adult and neonatal skeletal muscle respectively. SERCA2a is also expressed in skeletal muscle, while SERCA2b is ubiquitously expressed. SERCA3 is expressed in a limited number of non-muscle cells. Although all SERCAs are regulated, SERCA2b undergoes extensive regulation at the protein level, such as protein-protein interaction, phosphorylation and glycosylation. The expression of SERCA1 in mice is essential whereas in human its absence is tolerated but is the cause of Brody myopathy. Malfunction of SERCAs is also observed in heart disease and different forms of cancer.

Synonyms:

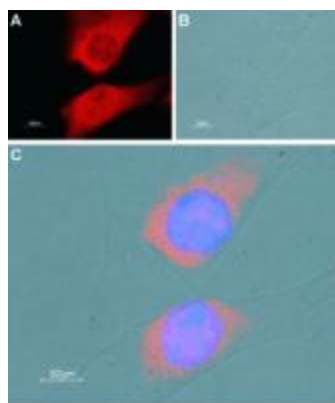
ATP2A; SERCA1

Product images:


Western blot analysis of mouse C2C12 myoblast cell line lysate (lanes 1 and 3) and rat skeletal muscle membranes (lanes 2 and 4): 1, 2. Anti-SERCA1 antibody, (1:200). 3, 4. Anti-SERCA1 antibody, preincubated with the control peptide antigen.



Expression of SERCA1 in rat skeletal muscle. Immunohistochemical staining of rat skeletal muscle paraffin-embedded sections using Anti-SERCA1 antibody, followed by goat anti-rabbit-AlexaFluor-594 secondary antibody. A. SERCA1 labeling appears in the muscle fibers, in a pattern that could indicate the location of the sarcoplasmic reticulum. The endomysium, surrounding muscle fibers, is not stained. B. Nuclear staining using DAPI as the counterstain. C. Merged images of A and B.



Expression of SERCA1 in mouse C2C12 myoblast cell line. Immunocytochemical staining of fixed and permeabilized C2C12 cells. A. Cells were stained with Anti-SERCA1 antibody, (1:400), followed by goat anti-rabbit-AlexaFluor-594 secondary antibody (red). B. Live image of the cells stained in A. C. Merge image of A and B and visualization of cell nuclei using Hoechst 33342 (blue).