Product Name: SERCA1 Rabbit Polyclonal Antibody
Catalog #: APRab17747

Summary

Production Name	SERCA1 Rabbit Polyclonal Antibody
Description	Rabbit Polyclonal Antibody
Host	Rabbit
Application	WB,IHC-P,IF-P,IF-F,ICC/IF,ELISA
Reactivity	Human,Mouse,Rat,Salamander,Pig

Performance

Conjugation	Unconjugated
Modification	Unmodified
Isotype	IgG
Clonality	Polyclonal
Form	Liquid
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
Buffer	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% New type preservative N.
Purification	Affinity purification

Immunogen

Gene Name	ATP2A1
Alternative Names	ATP2A1; Sarcoplasmic/endoplasmic reticulum calcium ATPase 1; SERCA1; SR Ca(2+)-ATPase 1; Calcium pump 1; Calcium-transporting ATPase sarcoplasmic reticulum type; fast twitch skeletal muscle isoform; Endoplasmic reticulum class 1/2 Ca(2+) AT
Gene ID	487.0
SwissProt ID	O14983.The antiserum was produced against synthesized peptide derived from human ATP2A1. AA range:548-597

Application

Dilution Ratio	WB 1:500-1:2000, IHC-P 1:100-1:300, ELISA 1:10000, IF-P/IF-F/ICC/IF 1:50-200
Molecular Weight	100kDa

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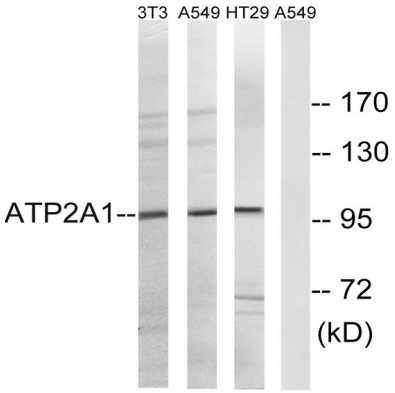
Background

This gene encodes one of the SERCA Ca(2+)-ATPases, which are intracellular pumps located in the sarcoplasmic or endoplasmic reticula of muscle cells. This enzyme catalyzes the hydrolysis of ATP coupled with the translocation of calcium from the cytosol to the sarcoplasmic reticulum lumen, and is involved in muscular excitation and contraction. Mutations in this gene cause some autosomal recessive forms of Brody disease, characterized by increasing impairment of muscular relaxation during exercise. Alternative splicing results in three transcript variants encoding different isoforms. [provided by RefSeq, Oct 2013],catalytic activity:ATP + H(2)O + Ca(2+)(Cis) = ADP + phosphate + Ca(2+)(Trans).,developmental stage:Isoform SERCA1A accounts for more than 99% of SERCA1 isoforms expressed in adult, while isoform SERCA1B predominates in neo-natal fibers.,disease:Defects in ATP2A1 are the cause of Brody disease (BD) [MIM:601003]. BD is an autosomal recessive myopathy characterized by increasing impairment of relaxation of fast twist skeletal muscle during exercise.,enzyme regulation:Reversibly inhibited by phospholamban (PLN) at low calcium concentrations. Dephosphorylated PLN decreases the apparent affinity of the ATPase for calcium. This inhibition is regulated by the phosphorylation of PLN.,function:This magnesium-dependent enzyme catalyzes the hydrolysis of ATP coupled with the translocation of calcium from the cytosol to the sarcoplasmic reticulum lumen. Contributes to calcium sequestration involved in muscular excitation/contraction.,induction:Increased contractile activity leads to decrease SERCA1 expression, while decreased contractile activity leads to increase of SERCA1 expression.,similarity:Belongs to the cation transport ATPase (P-type) family.,similarity:Belongs to the cation transport ATPase (P-type) family. Type IIA subfamily.,subunit:Associated with sarcolipin (SLN) and phospholamban (PLN).,tissue specificity:Skeletal muscle, fast twitch muscle (type II) fibers.,

Research Area

Calcium;Alzheimer's disease;

Image Data



Western blot analysis of lysates from HT-29, A549, and NIH/3T3 cells, using ATP2A1 Antibody. The lane on the right is blocked with the synthesized peptide.

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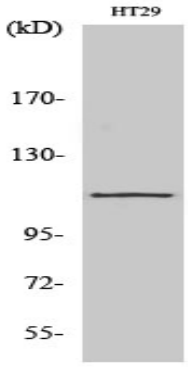

Western Blot analysis of various cells using SERCA1 Polyclonal Antibody diluted at 1： 2000

Note

For research use only.