

**Anti-SERCA1 ATPase Antibody**  
Catalog # ABO11029**Specification****Anti-SERCA1 ATPase Antibody - Product Information**

Application	WB, IHC
Primary Accession	<a href="#">O14983</a>
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

**Description**

Rabbit IgG polyclonal antibody for Sarcoplasmic/endoplasmic reticulum calcium ATPase 1(ATP2A1) detection. Tested with WB, IHC-P in Human;Mouse;Rat.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

**Anti-SERCA1 ATPase Antibody - Additional Information**

**Gene ID** 487

**Other Names**

Sarcoplasmic/endoplasmic reticulum calcium ATPase 1, SERCA1, SR Ca(2+)-ATPase 1, 3.6.3.8, Calcium pump 1, Calcium-transporting ATPase sarcoplasmic reticulum type, fast twitch skeletal muscle isoform, Endoplasmic reticulum class 1/2 Ca(2+) ATPase, ATP2A1

**Calculated MW**

110252 MW KDa

**Application Details**

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Rat, Mouse, By Heat<br>Western blot, 0.1-0.5 µg/ml, Human, Rat, Mouse<br>

**Subcellular Localization**

Endoplasmic reticulum membrane; Multi-pass membrane protein. Sarcoplasmic reticulum membrane; Multi-pass membrane protein.

**Tissue Specificity**

Skeletal muscle, fast twitch muscle (type II) fibers.

**Protein Name**

Sarcoplasmic/endoplasmic reticulum calcium ATPase 1(SERCA1/SR Ca(2+)-ATPase 1)

**Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Thimerosal, 0.05mg NaN<sub>3</sub>.

**Immunogen**

A synthetic peptide corresponding to a sequence in the middle region of human SERCA1

ATPase(665-680aa EQREACRRACCFARVE), identical to the related rat and mouse sequences.

#### Purification

Immunogen affinity purified.

#### Cross Reactivity

No cross reactivity with other proteins

#### Storage

**At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.**

### Anti-SERCA1 ATPase Antibody - Protein Information

**Name** ATP2A1 ([HGNC:811](#))

#### Function

Key regulator of striated muscle performance by acting as the major Ca(2+) ATPase responsible for the reuptake of cytosolic Ca(2+) into the sarcoplasmic reticulum. Catalyzes the hydrolysis of ATP coupled with the translocation of calcium from the cytosol to the sarcoplasmic reticulum lumen (By similarity). Contributes to calcium sequestration involved in muscular excitation/contraction (PubMed:[10914677](http://www.uniprot.org/citations/10914677)).

#### Cellular Location

Endoplasmic reticulum membrane {ECO:0000250|UniProtKB:P04191}; Multi-pass membrane protein {ECO:0000250|UniProtKB:P04191}. Sarcoplasmic reticulum membrane {ECO:0000250|UniProtKB:P04191}; Multi-pass membrane protein {ECO:0000250|UniProtKB:P04191}

#### Tissue Location

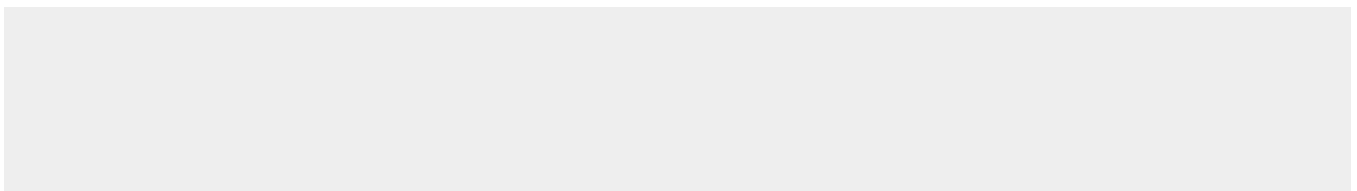
Skeletal muscle, fast twitch muscle (type II) fibers.

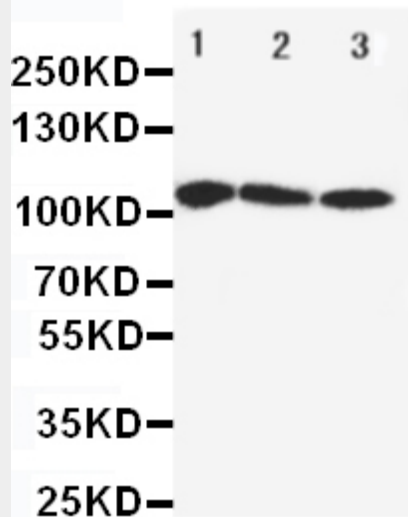
### Anti-SERCA1 ATPase Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

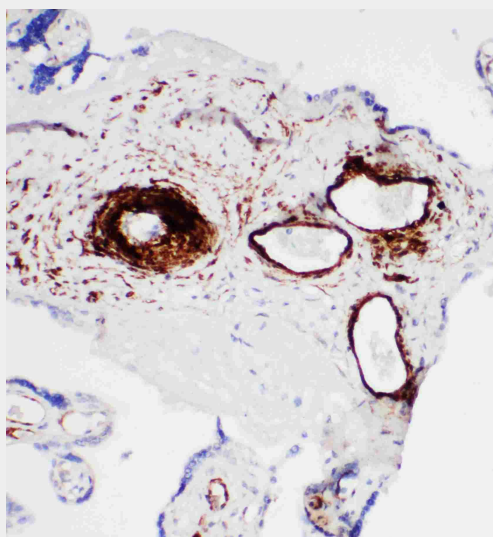
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### Anti-SERCA1 ATPase Antibody - Images

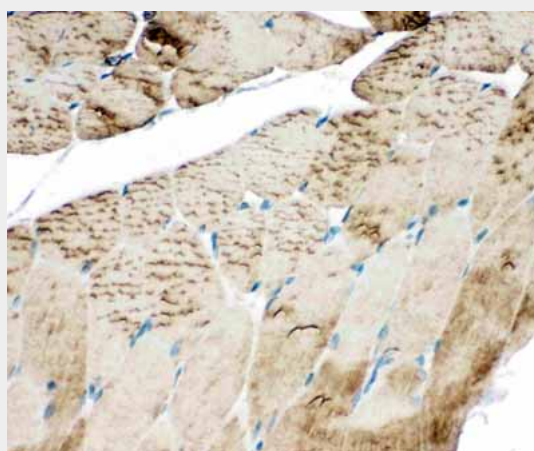




Anti-SERCA1 ATPase antibody, ABO11029, Western blotting Lane 1: Rat Skeletal Muscle Tissue Lysate Lane 2: PANC Cell Lysate Lane 3: U87 Cell Lysate



Anti-SERCA1 ATPase antibody, ABO11029, IHC(P) IHC(P): Human Placenta Tissue



Anti-SERCA1 ATPase antibody, ABO11029, IHC(P) IHC(P): Rat Skeletal Muscle Tissue

**Anti-SERCA1 ATPase Antibody - Background**

SERCA1(SARCOPLASMIC RETICULUM Ca(2+)-ATPase 1), also called ATP2A1, is an enzyme that in humans is encoded by the ATP2A1 gene. This gene encodes one of the SERCA Ca(2+)-ATPases, which are intracellular pumps located in the sarcoplasmic or endoplasmic reticula of muscle cells. The SERCA1 gene is mapped on 16p11.2. 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. Zhang et al.(1995)determined that the human ATP2A1 gene is 26 kb long and contains 23 exons, 1 of which can be alternatively spliced.Overexpression of S1T, but not full-length SERCA1, induced ER stress in HeLa cells and amplified ER stress through the PERK(EIF2AK3)-EIF2A -ATF4 -CHOP(DDIT3) pathway. Mutations in this gene cause some autosomal recessive forms of Brody disease, characterized by increasing impairment of muscular relaxation during exercise.