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

Anti-SERCA1 ATPase Antibody
Catalog # ABO11029

Specification

Anti-SERCA1 ATPase Antibody - Product Information

Application	**WB, IHC-P**
Primary Accession	O14983
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
Western blot, 0.1-0.5 µg/ml, Human, Rat, Mouse

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 Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.

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 r˚Constitution, 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).

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 Cytomety
- Cell Culture

Anti-SERCA1 ATPase Antibody - Images

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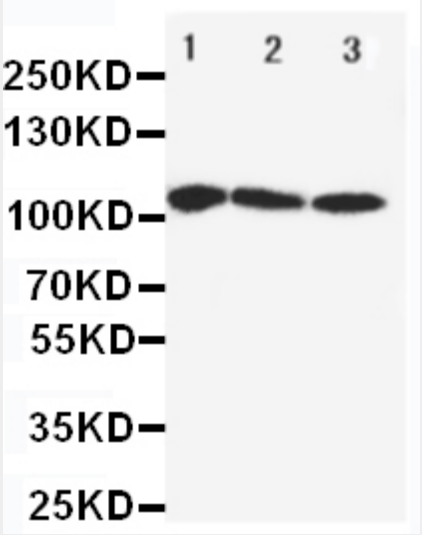
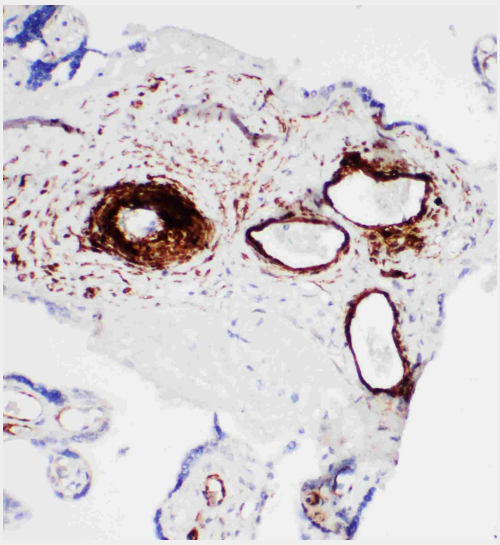
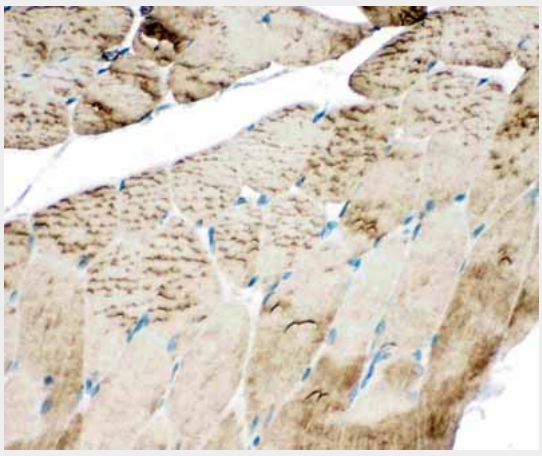


Anti-SERCA1 ATPase antibody, ABO11029, Western blottingLane 1: Rat Skeletal Muscle Tissue Lysate Lane 2: PANC Cell Lysate Lane 3: U87 Cell Lysate



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

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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.