abcam

ab233647

Anti-SERCA1 ATPase antibody [3D1H6]

Mouse Monoclonal SERCA1 ATPase antibody. Suitable for Flow Cyt, WB and reacts with Human, Mouse, African green monkey, Recombinant full length protein - Human, Transfected cell lysate - Human samples. Cited in 1 publication. Immunogen corresponding to Recombinant Fragment Protein within Human ATP2A1 aa 450-650.

Image updates are in progress. Products remain available and covered by the Abcam Product Promise. Learn more.

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human ATP2A1 aa 450-650. The exact immunogen used to generate this antibody is proprietary information. Database link O14983
Clone number	3D1H6
Purification technique	Affinity purification Protein G
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from tissue culture supernatant.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/200 - 1/400
Notes	-

Expected

Species	Mouse, African green monkey
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Rat, Rabbit, Cow
Dilution info	-
Notes	-

Not recommended

Species	Recombinant full length protein - Human, Transfected cell lysate - Human
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/500 - 1/2000
Notes	-

Species	Human
Dilution info	1/500 - 1/2000
Notes	-

Species	African green monkey
Dilution info	1/500 - 1/2000

Notes	-

Species	Recombinant full length protein - Human
Dilution info	1/500 - 1/2000
Notes	-

Species	Transfected cell lysate - Human
Dilution info	1/500 - 1/2000
Notes	-

Predicted

Species	Rat, Rabbit, Cow
Dilution info	-
Notes	-

Target data

See full target information ATP2A1

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).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot

Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	SERCA1 ATPase also known as sarco/endoplasmic reticulum Ca2+ ATPase 1 is an important enzyme responsible for the active transport of Ca2+ ions from the cytosol into the sarcoplasmic reticulum which is important for muscle relaxation. This protein has a molecular weight of about 110 kDa. SERCA1 ATPase predominantly expresses in fast-twitch skeletal muscle allowing these muscles to relax rapidly after contraction. The enzyme utilizes ATP to pump calcium ions which highlights its role as an ATPase protein and its functionality in maintaining calcium homeostasis.
Biological function summary	SERCA1 ATPase ensures proper calcium regulation and muscle function by facilitating the reuptake of Ca2+ ions into the sarcoplasmic reticulum following muscle contraction. It does not operate as part of a complex but plays a significant role in calcium ion translocation thereby regulating muscle contraction-relaxation cycles. This ATPase protein is directly involved in muscle physiology and its efficient function is critical for fast muscle fibers.
Pathways	SERCA1 ATPase is a significant component of the calcium signaling and muscle contraction pathways. In the context of muscle contraction the release and reuptake of Ca2+ ions regulated by SERCA1 ATPase are central events. The protein works closely with the ryanodine receptor (RyR) and calsequestrin which also participate in the modulation of intracellular calcium levels. Their interactions ensure precise coordination during muscle contraction and relaxation processes.
Associated diseases and disorders	Mutations or dysregulation of SERCA1 ATPase can lead to conditions such as Brody disease and certain forms of myopathy. Brody disease is characterized by impaired muscle relaxation which directly relates to the malfunctioning of this Ca2+ ATPase. Additionally the disrupted function of SERCA1 ATPase may also involve interactions with other proteins like the ryanodine receptor which can exacerbate muscle-related symptoms and contribute to the pathophysiology of these disorders.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

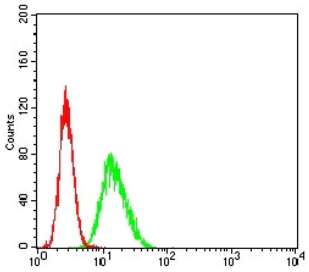
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

---

1 product image



Flow Cytometry - Anti-SERCA1 ATPase antibody [3D1H6] (ab233647)

SERCA1 ATPase Flow Cytometry staining using mouse Anti-SERCA1 ATPase antibody

Flow cytometric analysis of HeLa (human epithelial cell line from cervix adenocarcinoma) cells using ab233647 (green) at 1/200 dilution compared with a negetive control (red).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.