

**SERCA2 Polyclonal Antibody**  
Catalog # AP73634**Specification****SERCA2 Polyclonal Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">P16615</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal

**SERCA2 Polyclonal Antibody - Additional Information****Gene ID** 488**Other Names**

ATP2A2; ATP2B; Sarcoplasmic/endoplasmic reticulum calcium ATPase 2; SERCA2; SR Ca(2+)-ATPase 2; Calcium pump 2; Calcium-transporting ATPase sarcoplasmic reticulum type, slow twitch skeletal muscle isoform; Endoplasmic reticulum class 1/2 Ca(2+) ATPase

**Dilution**

WB~~Western Blot: 1/500 - 1/2000. IHC-p: 1/100-1/300. ELISA: 1/20000. Not yet tested in other applications.

**Format**

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

**Storage Conditions**

-20°C

**SERCA2 Polyclonal Antibody - Protein Information****Name** ATP2A2 ([HGNC:812](#))**Synonyms** ATP2B**Function**

This magnesium-dependent enzyme catalyzes the hydrolysis of ATP coupled with the translocation of calcium from the cytosol to the sarcoplasmic reticulum lumen (PubMed:<a href="http://www.uniprot.org/citations/12542527" target="\_blank">12542527</a>, PubMed:<a href="http://www.uniprot.org/citations/16402920" target="\_blank">16402920</a>). Involved in autophagy in response to starvation. Upon interaction with VMP1 and activation, controls ER-isolation membrane contacts for autophagosome formation (PubMed:<a href="http://www.uniprot.org/citations/28890335" target="\_blank">28890335</a>). Also modulates ER contacts with lipid droplets, mitochondria and endosomes (PubMed:<a href="http://www.uniprot.org/citations/28890335" target="\_blank">28890335</a>). In coordination with FLVCR2 mediates heme-stimulated switching from mitochondrial ATP synthesis to thermogenesis (By similarity).

### Cellular Location

Endoplasmic reticulum membrane {ECO:0000250|UniProtKB:O55143}; Multi-pass membrane protein. Sarcoplasmic reticulum membrane; Multi-pass membrane protein. Note=Colocalizes with FLVCR2 at the mitochondrial-ER contact junction. {ECO:0000250|UniProtKB:O55143}

### Tissue Location

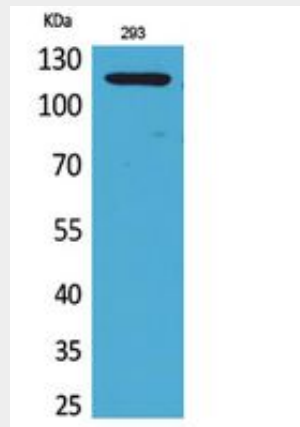
Isoform 1 is widely expressed in smooth muscle and nonmuscle tissues such as in adult skin epidermis, with highest expression in liver, pancreas and lung, and intermediate expression in brain, kidney and placenta. Also expressed at lower levels in heart and skeletal muscle. Isoforms 2 and 3 are highly expressed in the heart and slow twitch skeletal muscle. Expression of isoform 3 is predominantly restricted to cardiomyocytes and in close proximity to the sarcolemma Both isoforms are mildly expressed in lung, kidney, liver, pancreas and placenta. Expression of isoform 3 is amplified during monocytic differentiation and also observed in the fetal heart

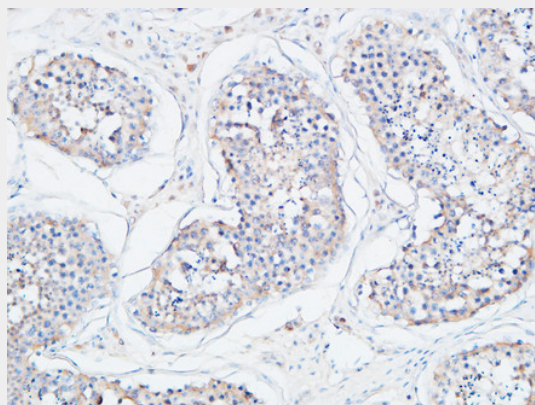
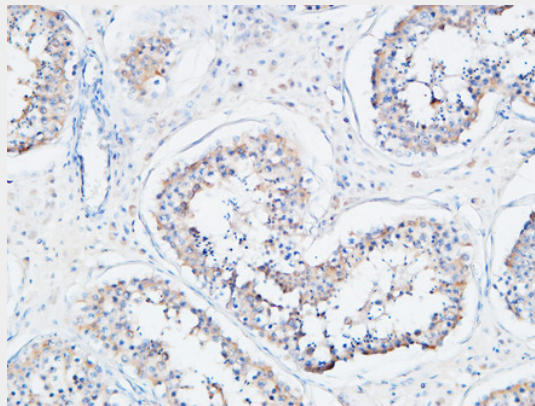
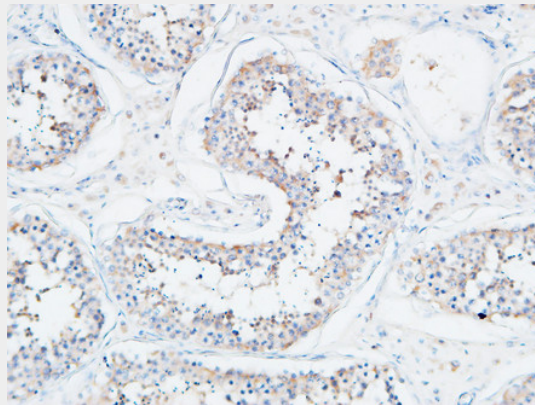
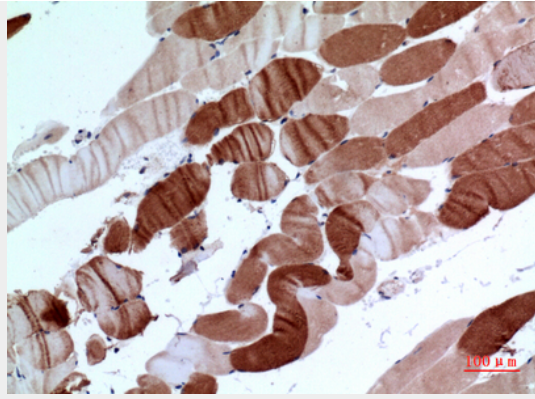
### SERCA2 Polyclonal Antibody - Protocols

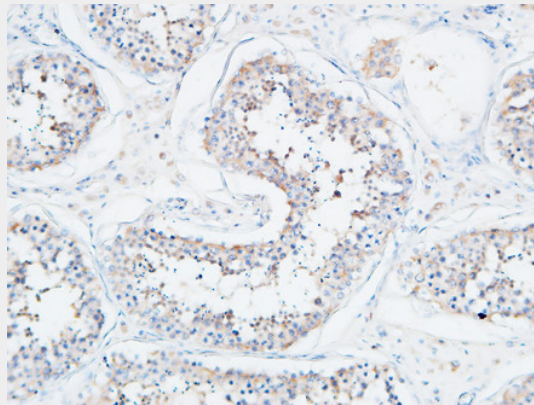
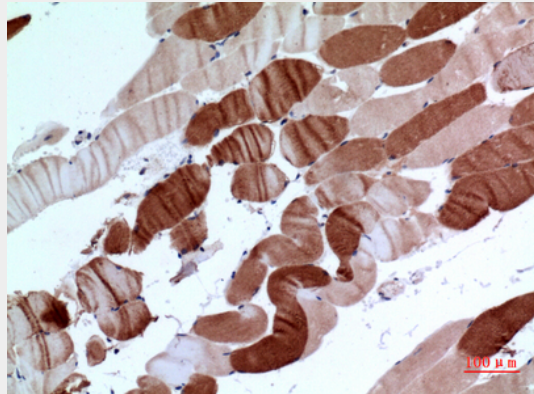
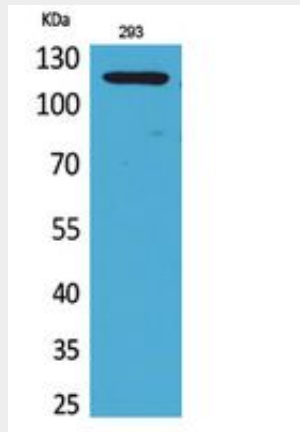
Provided below are standard protocols that you may find useful for product applications.

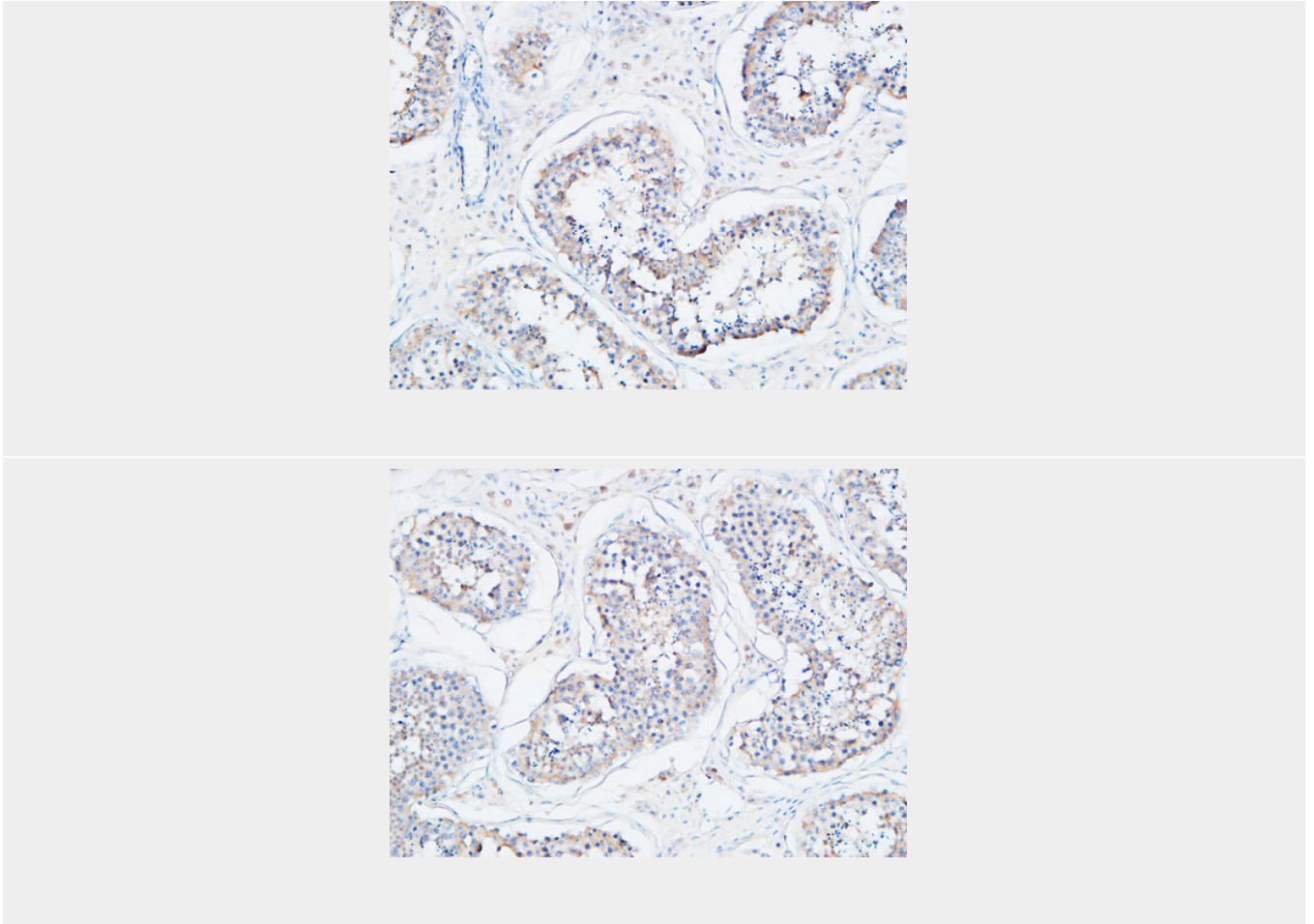
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### SERCA2 Polyclonal Antibody - Images









### **SERCA2 Polyclonal Antibody - Background**

This magnesium-dependent enzyme catalyzes the hydrolysis of ATP coupled with the translocation of calcium from the cytosol to the sarcoplasmic reticulum lumen. Isoform 2 is involved in the regulation of the contraction/relaxation cycle (PubMed:16402920). Acts as a regulator of TNFSF11-mediated Ca(2+) signaling pathways via its interaction with TMEM64 which is critical for the TNFSF11- induced CREB1 activation and mitochondrial ROS generation necessary for proper osteoclast generation. Association between TMEM64 and SERCA2 in the ER leads to cytosolic Ca (2+) spiking for activation of NFATC1 and production of mitochondrial ROS, thereby triggering Ca (2+) signaling cascades that promote osteoclast differentiation and activation (By similarity).