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Anti-SERCA2 ATPase Antibody

Catalog # ABO11030

Product Information

Application	WB, IHC-P
Primary Accession	P16615
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Sarcoplasmic/endoplasmic reticulum calcium ATPase 2(ATP2A2) detection. Tested with WB, IHC-P in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	488
Other Names	Sarcoplasmic/endoplasmic reticulum calcium ATPase 2, SERCA2, SR Ca(2+)-ATPase 2, 3.6.3.8, Calcium pump 2, Calcium-transporting ATPase sarcoplasmic reticulum type, slow twitch skeletal muscle isoform, Endoplasmic reticulum class 1/2 Ca(2+) ATPase, ATP2A2, ATP2B
Calculated MW	114757
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, Mouse, Rat, By Heat Western blot, 0.1-0.5 □g/ml, Human, Rat, Mouse
Subcellular Localization	Endoplasmic reticulum membrane; Multi-pass membrane protein. Sarcoplasmic reticulum membrane; Multi-pass membrane protein.
Tissue Specificity	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. .
Source	Eukaryota
Protein Name	Sarcoplasmic/endoplasmic reticulum calcium ATPase 2(SERCA2/SR

	Ca(2+)-ATPase 2)
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 SERCA2 ATPase(665-679aa QRDACLNARCFARVE), 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.
Sequence Similarities	Belongs to the cation transport ATPase (P-type) (TC 3.A.3) family. Type IIA subfamily.

Protein Information

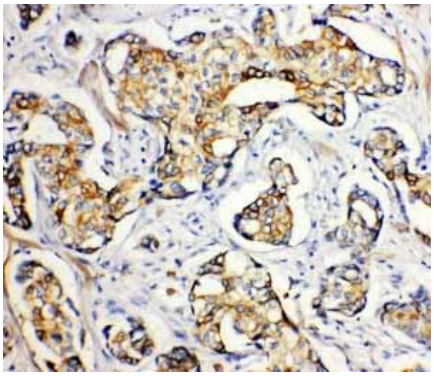
Name	ATP2A2 (HGNC:812)
Synonyms	ATP2B
Function	This magnesium-dependent enzyme catalyzes the hydrolysis of ATP coupled with the translocation of calcium from the cytosol to the sarcoplasmic reticulum lumen (PubMed:12542527, PubMed:16402920). Involved in autophagy in response to starvation. Upon interaction with VMP1 and activation, controls ER-isolation membrane contacts for autophagosome formation (PubMed:28890335). Also modulates ER contacts with lipid droplets, mitochondria and endosomes (PubMed:28890335). 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

Background

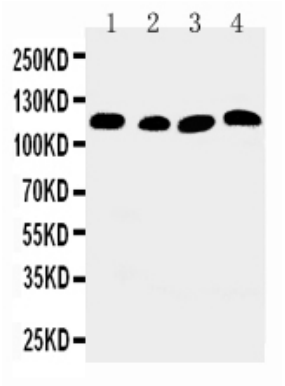
SERCA2(SARCOPLASMIC RETICULUM Ca(2+)-ATPase 2), also called ATP2A2, ATP2B, encodes one of the SERCA Ca(2+)-ATPases, which are intracellular pumps located in the sarcoplasmic or endoplasmic reticula of muscle cells. They are closely related to the plasma membrane Ca(2+)-ATPases, or PMCAs. SERCA2 belongs to the large family of P-type cation pumps that couple ATP hydrolysis with cation transport across membranes. The SERCA2 gene is mapped on 12q24.11. SERCA2 was expressed in all specimens, with pronounced expression

in the subnuclear aspect of basal epidermal keratinocytes. There was variable suprabasal expression.SERCA2 expression was also observed in the infundibulum and outer root sheath of hair follicles; germinative and mature cells of sebaceous glands; secretory coil and duct of eccrine glands; apocrine gland cells; and arrector pili muscle. In Darier disease skin, strong SERCA2 positivity was detected in the basal, suprabasal, and acantholytic lesional cells. Perilesional Darier disease skin was comparable to normal skin.

Images



Anti-SERCA2 ATPase antibody, ABO11030, IHC(P)IHC(P): Human Mammary Cancer Tissue



Anti-SERCA2 ATPase antibody, ABO11030, Western blottingLane 1: Rat Skeletal Muscle Tissue LysateLane 2: Rat Kidney Tissue LysateLane 3: PANC Cell LysateLane 4: SMMC Cell Lysate

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