Immunotag™ SERCA2 Polyclonal Antibody

Antibody Specification

Catalog No.	ITT5451
Product Description	Immunotag™ SERCA2 Polyclonal Antibody
Size	50 µg, 100 µg
Conjugation	HRP, Biotin, FITC, Alexa Fluor® 350, Alexa Fluor® 405, Alexa Fluor® 488, Alexa Fluor® 555, Alexa Fluor® 594, Alexa Fluor® 647
IMPORTANT NOTE	This product is custom manufactured with a lead time of 3-4 weeks. Once in production, this item cannot be cancelled from an order and is not eligible for return.
Target Protein	SERCA2
Clonality	Polyclonal
Storage/Stability	-20°C/1 year
Application	WB,IHC-p,ELISA
Recommended Dilution	Western Blot: 1/500 - 1/2000. IHC-p: 1/100-1/300. ELISA: 1/20000. Not yet tested in other applications.
Concentration	1 mg/ml
Reactive Species	Human,Mouse,Rat
Host Species	Rabbit
Immunogen	Synthesized peptide derived from SERCA2, at AA range: 841-890
Specificity	SERCA2 Polyclonal Antibody detects endogenous levels of SERCA2 protein.
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen
Form	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Gene Name	ATP2A2
Accession No.	P16615 O55143 P11507
Alternate 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

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Description	ATPase sarcoplasmic/endoplasmic reticulum Ca2+ transporting 2(ATP2A2) Homo sapiens This gene encodes one of the SERCA Ca(2+)-ATPases, which are intracellular pumps located in the sarcoplasmic or endoplasmic reticula of muscle cells. This enzyme catalyzes the hydrolysis of ATP coupled with the translocation of calcium from the cytosol into the sarcoplasmic reticulum lumen, and is involved in regulation of the contraction/relaxation cycle. Mutations in this gene cause Darier-White disease, also known as keratosis follicularis, an autosomal dominant skin disorder characterized by loss of adhesion between epidermal cells and abnormal keratinization. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Oct 2008],
Cell Pathway/ Category	Calcium,Cardiac muscle contraction,Alzheimer's disease,Hypertrophic cardiomyopathy (HCM),Arrhythmogenic right ventricular cardiomyopathy (ARVC),Dilated cardiomyopathy,
Protein Expression	Cerebellum,Epithelium,Eye,Kidney,
Subcellular Localization	endoplasmic reticulum,endoplasmic reticulum membrane,integral component of plasma membrane,vesicle membrane,longitudinal sarcoplasmic reticulum,membrane,integral component of membrane,sarcoplasmic reticulum,platelet dense
Protein Function	SERCA2 transcripts differ only in their 3'-UTR region and are expressed in a tissue-specific manner,catalytic activity:ATP + H(2)O + Ca(2+)(Cis) = ADP + phosphate + Ca(2+)(Trans).,disease:Defects in ATP2A2 are a cause of acrokeratosis verruciformis (AKV) [MIM:101900]; also known as Hopf disease. AKV is a localized disorder of keratinization, which is inherited as an autosomal dominant trait. Its onset is early in life with multiple flat-topped, flesh-colored papules on the hands and feet, punctate keratoses on the palms and soles, with varying degrees of nail involvement. The histopathology shows a distinctive pattern of epidermal features with hyperkeratosis, hypergranulosis, and acanthosis together with papillomatosis. These changes are frequently associated with circumscribed elevations of the epidermis that are said to resemble church spires. There are no features of dyskeratosis or acantholysis, the typical findings in lesions of Darier disease.,disease:Defects in ATP2A2 are the cause of Darier disease (DD) [MIM:124200]; also known as Darier-White disease (DAR). DD is an autosomal dominantly inherited skin disorder characterized by loss of adhesion between epidermal cells (acantholysis) and abnormal keratinization. Patients with mild disease may have no more than a few scattered keratotic papules or subtle nail changes, whereas those with severe disease are handicapped by widespread malodorous keratotic plaques. In a few families, neuropsychiatric abnormalities such as mild mental retardation, schizophrenia, bipolar disorder and epilepsy have been reported. Stress, UV exposure, heat, sweat, friction, and oral contraception exacerbate disease symptoms. Prevalence has been estimated at 1 in 50000.,enzyme regulation:Reversibly inhibited by phospholamban (PLN) at low calcium concentrations. Dephosphorylated PLN decreases the apparent affinity of the ATPase for calcium. This inhibition is regulated by the phosphorylation of PLN.,function:This magnesium-dependent enzyme catalyzes the hydrolysis of ATP coupled with the translocation of calcium from the cytosol to the sarcoplasmic reticulum lumen. Isoform SERCA2A is involved in the regulation of the contraction/relaxation cycle.,PTM:Nitrated under oxidative stress. Nitration on the two tyrosine residues inhibits catalytic activity.,similarity:Belongs to the cation transport ATPase (P-type) family.,similarity:Belongs to the cation transport ATPase (P-type) family. Type IIA subfamily.,subunit:Associated with phospholamban (PLN).,tissue specificity:Isoform SERCA2A is highly expressed in heart and slow twitch skeletal muscle. Isoform SERCA2B is widely expressed, in smooth muscle and nonmuscle tissues such as in adult skin epidermis.,

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Usage	For Research Use Only! Not for diagnostic or therapeutic procedures.