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SACM1L Rabbit pAb

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Catalog # AP57488

Product Information

Application	IHC-P, IHC-F, IF, E
Primary Accession	Q9NTJ5
Predicted	Human, Mouse, Rat, Dog, Pig, Horse, Rabbit, Zebrafish, Sheep, Cat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	66967
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human SACM1L
Epitope Specificity	431-530/587
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Endoplasmic reticulum membrane.
SIMILARITY	Contains 1 SAC domain.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The Saccharomyces cerevisiae SAC1 gene modulates yeast actin function and alleviates the essential requirement for phosphatidylinositol transfer protein (sec14p) activity in Golgi secretory function. The SAC1 gene product (Sac1p) is an integral membrane lipid phosphatase of the endoplasmic reticulum (ER) and the Golgi complex and contains a Sac phosphatase domain (1-2). Sac1p functions in a wide range of cellular processes including inositol metabolism, actin cytoskeletal organization, endoplasmic reticulum ATP transport, phosphatidylinositol-phospha-tidylcholine transfer protein function and multiple-drug sensitivity (3). Sac1p is an important regulator of microsomal ATP transport, providing a link between inositol phospholipid signaling and ATP-dependent processes in the yeast ER (4). Defects in Sac1p relieves the requirement for Sec14p by altering phospholipid metabolism to expand the pool of diacylglycerol in the Golgi (5). Sac1p dysfunction exerts its pleiotropic effects on yeast Golgi function, the organization of the actin cytoskeleton, and the cellular requirement for inositol, through altered metabolism of inositol glycerophospholipids (6). These effects suggest the secretory and cytoskeletal activities are coordinated to achieve proper spatial regulation of secretion in S. cerevisiae (7).

Additional Information

Gene ID	22908
Other Names	Phosphatidylinositol-3-phosphatase SAC1, 3.1.3.64, Phosphatidylinositol-4-phosphate phosphatase, Suppressor of actin

	mutations 1-like protein, SACM1L (HGNC:17059)
Target/Specificity	Detected in heart, brain, lung, liver, kidney, pancreas and testis.
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	SACM1L (HGNC:17059)
Function	Phosphoinositide phosphatase which catalyzes the hydrolysis of phosphatidylinositol 4-phosphate (PtdIns(4)P) (PubMed:24209621, PubMed:27044890, PubMed:29461204, PubMed:30659099). Can also catalyze the hydrolysis of phosphatidylinositol 3-phosphate (PtdIns(3)P) and has low activity towards phosphatidylinositol-3,5-bisphosphate (PtdIns(3,5)P2) (By similarity). Shows a very robust PtdIns(4)P phosphatase activity when it binds PtdIns(4)P in a 'cis' configuration in the cellular environment, with much less activity seen when it binds PtdIns(4)P in 'trans' configuration (PubMed:24209621, PubMed:29461204, PubMed:30659099). PtdIns(4)P phosphatase activity (when it binds PtdIns(4)P in 'trans' configuration) is enhanced in the presence of PLEKHA3 (PubMed:30659099).
Cellular Location	Endoplasmic reticulum membrane; Multi-pass membrane protein. Golgi apparatus membrane. Note=Trafficking between the ER and Golgi is regulated by nutrient status and by TMEM39A (PubMed:31806350) Localizes to endoplasmic reticulum-plasma membrane contact sites (EPCS) in the presence of phosphatidylinositol-4,5-bisphosphate (PubMed:27044890).
Tissue Location	Detected in heart, brain, lung, liver, kidney, pancreas and testis.

Background

The Saccharomyces cerevisiae SAC1 gene modulates yeast actin function and alleviates the essential requirement for phosphatidylinositol transfer protein (sec14p) activity in Golgi secretory function. The SAC1 gene product (Sac1p) is an integral membrane lipid phosphatase of the endoplasmic reticulum (ER) and the Golgi complex and contains a Sac phosphatase domain (1-2). Sac1p functions in a wide range of cellular processes including inositol metabolism, actin cytoskeletal organization, endoplasmic reticulum ATP transport, phosphatidylinositol-phospha-tidylcholine transfer protein function and multiple-drug sensitivity (3). Sac1p is an important regulator of microsomal ATP transport, providing a link between inositol phospholipid signaling and ATP-dependent processes in the yeast ER (4). Defects in Sac1p relieves the requirement for Sec14p by altering phospholipid metabolism to expand the pool of diacylglycerol in the Golgi (5). Sac1p dysfunction exerts its pleiotropic effects on yeast Golgi function, the organization of the actin cytoskeleton, and the cellular requirement for inositol, through altered metabolism of inositol glycerophospholipids (6). These effects suggest the secretory and cytoskeletal activities are coordinated to achieve proper spatial regulation of secretion in S. cerevisiae (7).