

## SACM1L Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP57488

## **Product Information**

**Application** IHC-P, IHC-F, IF, ICC, E

Primary Accession Q9NTJ5

**Reactivity** Rat, Pig, Dog, Cat, Bovine

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

**Target/Specificity** Detected in heart, brain, lung, liver, kidney, pancreas and testis.

**Dilution** IHC-P=1:100-500,IHC-F=1:100-500,ICC=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:<u>24209621</u>, PubMed:<u>29461204</u>, PubMed:<u>30659099</u>). 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.

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