SANTA CRUZ BIOTECHNOLOGY, INC.

PACS-1a (4): sc-136344

BACKGROUND

Phosphofurin acidic cluster sorting protein-1 (PACS-1) is related to a family of cytosolic proteins, including HIV-1 Nef and β-arrestin, that direct the internalization of cell surface receptors through the association with the clathrin/AP-2 sorting machinery. Similarily, PACS-1 participates in the localization of membrane proteins to the secretory pathway membrane compartments. Within the secretory pathway, the *trans*-Golgi network (TGN)/endosomal system is essential for sorting and distributing soluble and membrane associated proteins, and for producing lysosomes for exocytosis. PACS-1 is expressed from two distinct reading frames, which generate both a larger form, designated PACS-1a, and a smaller protein that is designated PACS-1b. PACS-1 proteins preferentially bind to the endoprotease, furin, as well as to the mannose 6-phosphate receptor, where they then facilitate the trafficking and localization of these proteins to the TGN, in a phosphorylation dependent manner.

REFERENCES

1. Takahashi, S., et al. 1995. Localization of furin to the *trans*-Golgi network and recycling from the cell surface involves Ser and Tyr residues within the cytoplasmic domain. J. Biol. Chem. 270: 28397-28401.
2. Jones, B.G., et al. 1995. Intracellular trafficking of furin is modulated by the phosphorylation state of a casein kinase II site in its cytoplasmic tail. EMBO J. 14: 5869-5883.
3. Le Borgne, R. and Hoflack, B. 1997. Mannose 6-phosphate receptors regulate the formation of clathrin-coated vesicles in the TGN. J. Cell Biol. 137: 335-345.

CHROMOSOMAL LOCATION

Genetic locus: PACS1 (human) mapping to 11q13.1; Pacs1 (mouse) mapping to 19 A.

SOURCE

PACS-1a (4) is a mouse monoclonal antibody raised against amino acids 733-927 of PACS-1a of rat origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PACS-1a (4) is available conjugated to agarose (sc-136344 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; and to HRP (sc-136344 HRP), 200 µg/ml, for WB, IHC(P) and ELISA.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

PACS-1a (4) is recommended for detection of PACS-1a of human origin, PACS-1 of mouse origin and the corresponding rat homolog by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)]; non cross-reactive with PACS-1b.

Suitable for use as control antibody for PACS-1a siRNA (h): sc-106348, PACS-1 siRNA (m): sc-151986, PACS-1a shRNA Plasmid (h): sc-106348-SH, PACS-1 shRNA Plasmid (m): sc-151986-SH, PACS-1a shRNA (h) Lentiviral Particles: sc-106348-V and PACS-1 shRNA (m) Lentiviral Particles: sc-151986-V.

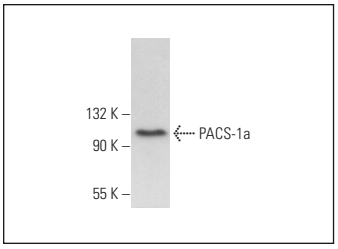
Molecular Weight of PACS-1a: 120 kDa.

Positive Controls: rat brain extract: sc-2392 or Jurkat whole cell lysate: sc-2204.

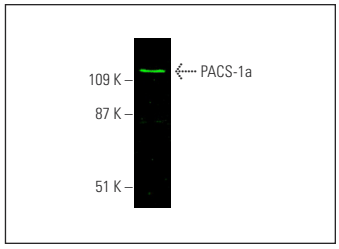
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



PACS-1a (4): sc-136344. Western blot analysis of PACS-1a expression in Jurkat whole cell lysate.



PACS-1a (4): sc-136344. Near-infrared western blot analysis of PACS-1a expression in rat brain tissue extract. Blocked with HLA-E (MEM-E/08): sc-51624. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

SELECT PRODUCT CITATIONS

1. Burgert, T., et al. 2013. SORLA-dependent and -independent functions for PACS1 in control of amyloidogenic processes. Mol. Cell. Biol. 33: 4308-4320.
2. Veena, M.S., et al. 2020. Dysregulation of hsa-miR-34a and hsa-miR-449a leads to overexpression of PACS-1 and loss of DNA damage response (DDR) in cervical cancer. J. Biol. Chem. 295: 17169-17186.

RESEARCH USE

For research use only, not for use in diagnostic procedures. Not for resale.