

SPCA2 (C-9): sc-376917

BACKGROUND

The family of P-type Ca^{2+} -transport ATPases is made up of three subfamilies: sarco(endo)plasmic-reticulum Ca^{2+} ATPases (SERCA), plasma- membrane Ca^{2+} ATPases (PMCA), and secretory-pathway Ca^{2+} ATPases (SPCA). The SPCA1 protein (encoded for by the ATP2C1 gene) is a $\text{Ca}^{2+}/\text{Mn}^{2+}$ -transport ATPase. It localizes to the Golgi apparatus and, together with SERCA2, it is responsible for the ionic milieu in the Golgi lumen. SPCA2 (encoded by the ATP2C2 gene) also localizes to the Golgi apparatus and has a higher enzymatic turnover rate than that of SPCA1 while having a high affinity for cytosolic Ca^{2+} . The enzymatic properties of the human SPCA2 enzyme and the restriction of its tissue expression to the gastrointestinal and respiratory tracts, prostate, thyroid, salivary, and mammary glands may, in principle, define a Ca^{2+} -ATPase pump with a specific physiological role in secretory cells.

REFERENCES

- Xiang, M., et al. 2005. A novel isoform of the secretory pathway $\text{Ca}^{2+}/\text{Mn}^{2+}$ -ATPase, hSPCA2, has unusual properties and is expressed in the brain. *J. Biol. Chem.* 280: 11608-11614.
- Vanoevelen, J., et al. 2005. The secretory pathway $\text{Ca}^{2+}/\text{Mn}^{2+}$ -ATPase 2 is a Golgi-localized pump with high affinity for Ca^{2+} ions. *J. Biol. Chem.* 280: 22800-22808.
- Dode, L., et al. 2006. Dissection of the functional differences between human secretory pathway $\text{Ca}^{2+}/\text{Mn}^{2+}$ -ATPase (SPCA) 1 and 2 isoenzymes by steady-state and transient kinetic analyses. *J. Biol. Chem.* 281: 3182-3189.

CHROMOSOMAL LOCATION

Genetic locus: ATP2C2 (human) mapping to 16q24.1.

SOURCE

SPCA2 (C-9) is a mouse monoclonal antibody raised against amino acids 397-439 mapping within an internal region of SPCA2 of human origin.

PRODUCT

Each vial contains 200 μg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SPCA2 (C-9) is recommended for detection of SPCA2 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μg per 100-500 μg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SPCA2 siRNA (h): sc-61605, SPCA2 shRNA Plasmid (h): sc-61605-SH and SPCA2 shRNA (h) Lentiviral Particles: sc-61605-V.

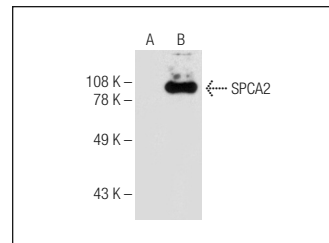
Molecular Weight of SPCA2: 105 kDa.

Positive Controls: SPCA2 (h): 293T Lysate: sc-172997.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



SPCA2 (C-9): sc-376917. Western blot analysis of SPCA2 expression in non-transfected: sc-117752 (A) and human SPCA2 transfected: sc-172997 (B) 293T whole cell lysates.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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