

# SPCA2 (C-12): sc-49603

## BACKGROUND

The family of P-type  $\text{Ca}^{2+}$ -transport ATPases is made up of three subfamilies: sarco(endo)plasmic-reticulum  $\text{Ca}^{2+}$  ATPases (SERCA), plasma-membrane  $\text{Ca}^{2+}$  ATPases (PMCA) and secretory-pathway  $\text{Ca}^{2+}$  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  $\text{Ca}^{2+}$ . 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  $\text{Ca}^{2+}$ -ATPase pump with a specific physiological role in secretory cells.

## REFERENCES

- Xiang, M., Mohamalawari, D. and Rao, R. 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., Dode, L., Van Baelen, K., Fairclough, R.J., Missiaen, L., Raeymaekers, L. and Wuytack, F. 2005. The secretory pathway  $\text{Ca}^{2+}/\text{Mn}^{2+}$ -ATPase 2 is a Golgi-localized pump with high affinity for  $\text{Ca}^{2+}$  ions. *J. Biol. Chem.* 280: 22800-22808.
- Dode, L., Andersen, J.P., Vanoevelen, J., Raeymaekers, L., Missiaen, L., Vilsen, B. and Wuytack, F. 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-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of SPCA2 of human origin.

## PRODUCT

Each vial contains 200  $\mu\text{g}$  IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-49603 P, (100  $\mu\text{g}$  peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

SPCA2 (C-12) is recommended for detection of SPCA2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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.

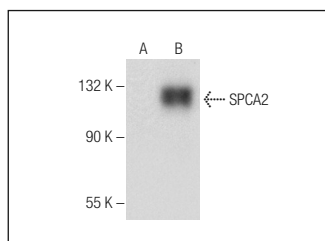
Molecular Weight of SPCA2: 105 kDa.

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

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



SPCA2 (C-12): sc-49603. Western blot analysis of SPCA2 expression in non-transfected: sc-117752 (A) and human SPCA2 transfected: sc-172997 (B) 293T whole cell lysates.

## RESEARCH USE

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

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Try **SPCA2 (B-5): sc-398330** or **SPCA1/2 (B-3): sc-377339**, our highly recommended monoclonal alternatives to SPCA2 (C-12).