

# SPCA2 (h): 293T Lysate: sc-172997

## 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

1. 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.
2. 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  $\text{Ca}^{2+}$  ions. *J. Biol. Chem.* 280: 22800-22808.
3. 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.

## PRODUCT

SPCA2 (h): 293T Lysate represents a lysate of human SPCA2 transfected 293T cells and is provided as 100  $\mu\text{g}$  protein in 200  $\mu\text{l}$  SDS-PAGE buffer.

## STORAGE

Store at  $-20^{\circ}\text{C}$ . Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## APPLICATIONS

SPCA2 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive SPCA2 antibodies. Recommended use: 10-20  $\mu\text{l}$  per lane.

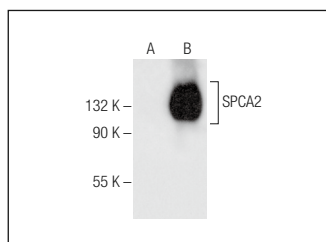
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

SPCA1/2 (B-3): sc-377339 is recommended as a positive control antibody for Western Blot analysis of enhanced human SPCA2 expression in SPCA2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

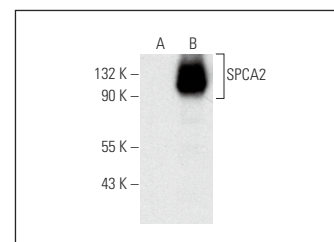
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:  
1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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.

## DATA



SPCA1/2 (B-3): sc-377339. Western blot analysis of SPCA2 expression in non-transfected: sc-117752 (A) and human SPCA2 transfected: sc-172997 (B) 293T whole cell lysates.



SPCA2 (B-5): sc-398330. 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.