

SPCA2 (B-5): sc-398330



The Power to Question

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 Ca^{2+} , 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 (B-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 925-946 at the C-terminus of SPCA2 of human origin.

PRODUCT

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

SPCA2 (B-5) is available conjugated to agarose (sc-398330 AC), 500 μg /0.25 ml agarose in 1 ml, for IP; to HRP (sc-398330 HRP), 200 $\mu\text{g}/\text{ml}$, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398330 PE), fluorescein (sc-398330 FITC), Alexa Fluor® 488 (sc-398330 AF488), Alexa Fluor® 546 (sc-398330 AF546), Alexa Fluor® 594 (sc-398330 AF594) or Alexa Fluor® 647 (sc-398330 AF647), 200 $\mu\text{g}/\text{ml}$, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398330 AF680) or Alexa Fluor® 790 (sc-398330 AF790), 200 $\mu\text{g}/\text{ml}$, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398330 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

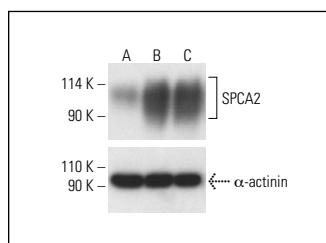
SPCA2 (B-5) is recommended for detection of SPCA2 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μg per 100-500 μg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and 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.

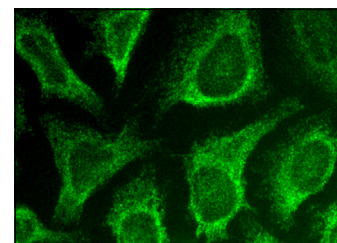
Molecular Weight of SPCA2: 105 kDa.

Positive Controls: chemically-treated HCT-116 whole cell lysate.

DATA



SPCA2 (B-5): sc-398330. Western blot analysis of SPCA2 expression in untreated (A) and chemically-treated (B, C) HCT-116 whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409. α -actinin (H-2): sc-17829 used as loading control. Detection reagent used: m-IgG₁ BP-HRP: sc-525408.



SPCA2 (B-5): sc-398330. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

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.

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