

PSAPL1 (L-18): sc-248316

BACKGROUND

The saposin family includes four structurally related activator proteins, saposin A, B, C and D, that are cleaved from the single precursor protein prosaposin. Prosaposin is synthesized as a protein that is post-translationally modified to a shorter form and then further glycosylated to yield a secretory product. This form subsequently undergoes partial proteolysis to produce saposin A, B, C and D. Each saposin family member acts in conjunction with hydrolase enzymes to facilitate the breakdown of glycosphingolipids within the lysosome. PSAPL1 (prosaposin-like 1) is a 521 secreted protein that contains 2 saposin A-type domains and 4 saposin B-type domains. It is suggested that PSAPL1 may activate the lysosomal degradation of sphingolipids. The gene encoding PSAPL1 is located on chromosome 4, which encodes nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes.

REFERENCES

- O'Brien, J.S. and Kishimoto, Y. 1991. Saposin proteins: structure, function, and role in human lysosomal storage disorders. *FASEB J.* 5: 301-308.
- Vaccaro, A.M., Tatti, M., Ciaffoni, F., Salvioli, R., Barca, A. and Scerch, C. 1997. Effect of saposins A and C on the enzymatic hydrolysis of liposomal glucosylceramide. *J. Biol. Chem.* 272: 16862-16867.
- Tatti, M., Salvioli, R., Ciaffoni, F., Pucci, P., Andolfo, A., Amoresano, A. and Vaccaro, A.M. 1999. Structural and membrane-binding properties of saposin D. *Eur. J. Biochem.* 263: 486-494.
- Zhao, Q. and Morales, C.R. 2000. Identification of a novel sequence involved in lysosomal sorting of the sphingolipid activator protein prosaposin. *J. Biol. Chem.* 275: 24829-24839.
- Koochekpour, S., Zhuang, Y.J., Beroukhim, R., Hsieh, C.L., Hofer, M.D., Zhou, H.E., Hiraiwa, M., Pattan, D.Y., Ware, J.L., Luftig, R.B., Sandhoff, K., Sawyers, C.L., Pienta, K.J., Rubin, M.A., Vessella, R.L., Sellers, W.R. and Sartor, O. 2005. Amplification and overexpression of prosaposin in prostate cancer. *Genes Chromosomes Cancer* 44: 351-364.
- Ni, X., Canuel, M. and Morales, C.R. 2006. The sorting and trafficking of lysosomal proteins. *Histol. Histopathol.* 21: 899-913.
- Hosoda, Y., Miyawaki, K., Saito, S., Chen, J., Bing, X., Terashita, T., Kobayashi, N., Araki, N., Shimokawa, T., Hamada, F., Sano, A., Tanabe, H. and Matsuda, S. 2007. Distribution of prosaposin in the rat nervous system. *Cell Tissue Res.* 330: 197-207.
- Koochekpour, S., Lee, T.J., Wang, R., Sun, Y., Delorme, N., Hiraiwa, M., Grabowski, G.A., Culig, Z. and Minokadeh, A. 2007. Prosaposin is a novel androgen-regulated gene in prostate cancer cell line LNCaP. *J. Cell. Biochem.* 101: 631-641.
- Zeng, J., Racicott, J. and Morales, C.R. 2009. The inactivation of the sortilin gene leads to a partial disruption of prosaposin trafficking to the lysosomes. *Exp. Cell Res.* 315: 3112-3124.

CHROMOSOMAL LOCATION

Genetic locus: PSAPL1 (human) mapping to 4p16.1.

SOURCE

PSAPL1 (L-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PSAPL1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-248316 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PSAPL1 (L-18) is recommended for detection of PSAPL1 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 PSAPL1 siRNA (h): sc-106859, PSAPL1 shRNA Plasmid (h): sc-106859-SH and PSAPL1 shRNA (h) Lentiviral Particles: sc-106859-V.

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.

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 or our catalog for detailed protocols and support products.