

saposin C (H-81): sc-32875

BACKGROUND

The saposin family includes four structurally related activator proteins, saposin A, B, C, and D, that are cleaved from a single precursor protein prosaposin. The gene encoding human prosaposin maps to chromosome 10. Prosaposin is synthesized as a 53 kDa protein that is posttranslationally modified to a 65 kDa form and then further glycosylated to yield a 70 kDa secretory product. This 70 kDa form subsequently undergoes partial proteolysis to produce saposin A, B, C, and D, each of which are between 12-14 kDa in mass. Each member acts in conjunction with hydrolase enzymes to facilitate the breakdown of glycosphingolipids within the lysosome. The saposins modify the environment of target lipids to make them accessible to the active sites of specific enzymes. Saposin A and C are involved in the hydrolysis of glucosylceramidase, and defects in saposin C are linked to Gaucher's disease. Saposin B facilitates the hydrolysis of the sulfate group from cerebroside sulfate, and defects in this protein are responsible for a form of metachromatic leukodystrophy, a progressive neurodegenerative condition. Saposin D may stimulate the hydrolysis of sphingomyelin and ceramide, but its exact physiological role is not clear.

REFERENCES

1. Schnabel, D., et al. 1991. Mutation in the sphingolipid activator protein 2 in a patient with a variant of Gaucher disease. *FEBS Lett.* 284: 57-59.
2. O'Brien, J.S., et al. 1991. Saposin proteins: structure, function, and role in human lysosomal storage disorders. *FASEB J.* 5: 301-308.
3. Suzuki, Y. 1995. Disorders of sphingolipid activator proteins. *Nippon Rinsho* 53: 3025-3027.
4. Vaccaro, A.M., et al. 1997. Effect of saposins A and C on the enzymatic hydrolysis of liposomal glucosylceramide. *J. Biol. Chem.* 272: 16862-16867.
5. Tatti, M., et al. 1999. Structural and membrane-binding properties of saposin D. *Eur. J. Biochem.* 263: 486-494.
6. Zhao, Q., et al. 2000. Identification of a novel sequence involved in lysosomal sorting of the sphingolipid activator protein prosaposin. *J. Biol. Chem.* 275: 24829-24839.
7. Fluharty, C.B., et al. 2001. Comparative lipid binding study on the cerebroside sulfate activator (saposin B). *J. Neurosci. Res.* 63: 82-89.
8. Ahn, V.E., et al. 2004. Crystal structure of saposin B reveals a dimeric shell for lipid binding. *Proc. Natl. Acad. Sci. USA* 100: 38-43.

CHROMOSOMAL LOCATION

Genetic locus: PSAP (human) mapping to 10q22.1.

SOURCE

saposin C (H-81) is a rabbit polyclonal antibody raised against amino acids 311-391 mapping within an internal region of saposin C 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.

APPLICATIONS

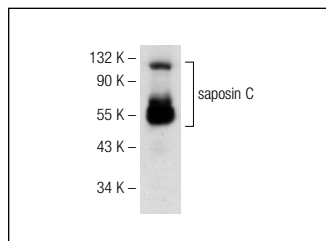
saposin C (H-81) is recommended for detection of prosaposin and mature saposin C of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 saposin siRNA (h): sc-44456, saposin shRNA Plasmid (h): sc-44456-SH and saposin shRNA (h) Lentiviral Particles: sc-44456-V.

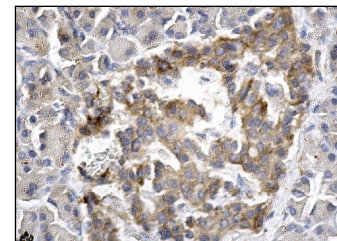
Molecular Weight of prosaposin C: 70 kDa.

Positive Controls: MOLT-4 whole cell lysate: sc-2233.

DATA



saposin C (H-81): sc-32875. Western blot analysis of saposin C expression in MOLT-4 whole cell lysate.



saposin C (H-81): sc-32875. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of Islets of Langerhans.

SELECT PRODUCT CITATIONS

1. Sun, L., et al. 2010. Regulation of cell proliferation and apoptosis through fibrocystin-prosaposin interaction. *Arch. Biochem. Biophys.* 502: 130-136.
2. Nakken, B., et al. 2011. Peroxisome proliferator-activated receptor γ -regulated cathepsin D is required for lipid antigen presentation by dendritic cells. *J. Immunol.* 187: 240-247.

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.



Try **saposin C (A-3): sc-374118** or **saposin C (B-10): sc-374119**, our highly recommended monoclonal alternatives to saposin C (H-81).