

saposin C (D-15): sc-27021

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 post-translationally 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 10q21-q22; Psap (mouse) mapping to 10 B4.

SOURCE

saposin C (D-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of saposin C of mouse origin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

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-27021 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

saposin C (D-15) is recommended for detection of saposin C of mouse 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for saposin siRNA (m): sc-44457.

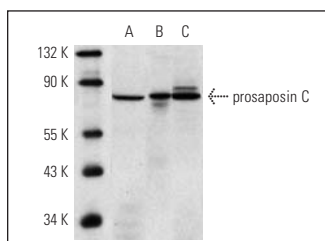
Molecular Weight of prosaposin C: 70 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, NIH/3T3 whole cell lysate: sc-2210 or mouse spleen extract: sc-2391.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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



saposin C (D-15): sc-27021. Western blot analysis of prosaposin C expression in RAW 264.7 (A) and NIH/3T3 (B) whole cell lysates and mouse spleen tissue extract (C).

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.