SANTA CRUZ BIOTECHNOLOGY, INC.

saposin (F-15): sc-100584

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. The gene encoding human prosaposin maps to chromosome 10. Prosaposin is synthesized as a protein that is posttranslationally 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. 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 leukodystropy, 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's 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 (F-15) is a mouse monoclonal antibody raised against recombinant saposin of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

saposin (F-15) is recommended for detection of saposin of human origin by 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).

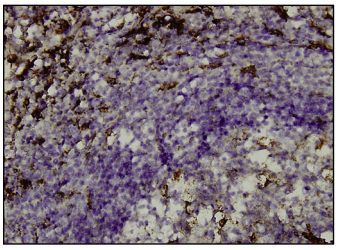
Suitable for use as control antibody for saposin siRNA (h): sc-44456, saposin shRNA Plasmid (h): sc-44456-SH and saposin shRNA (h) Lentiviral Particles: sc-44456-V.

Molecular Weight of saposin: 58 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 2) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



saposin (F-15): sc-100584. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human spleen tissue showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Nibe, K., et al. 2011. Clinical and pathologic features of neuronal ceroid-lipofuscinosis in a ferret *(Mustela putorius furo)*. Vet. Pathol. 48: 1185-1189.
2. Sharoar, M.G., et al. 2021. Accumulation of saposin in dystrophic neurites is linked to impaired lysosomal functions in Alzheimer's disease brains. Mol. Neurodegener. 16: 45.

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 for detailed protocols and support products.