

saposin C (A-3): sc-374118

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 glucosylceramide, 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.

CHROMOSOMAL LOCATION

Genetic locus: PSAP (human) mapping to 10q22.1; Psap (mouse) mapping to 10 B4.

SOURCE

saposin C (A-3) is a mouse monoclonal antibody raised against amino acids 311-391 mapping within an internal region of saposin C of human origin.

PRODUCT

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

saposin C (A-3) is available conjugated to agarose (sc-374118 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374118 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374118 PE), fluorescein (sc-374118 FITC), Alexa Fluor[®] 488 (sc-374118 AF488), Alexa Fluor[®] 546 (sc-374118 AF546), Alexa Fluor[®] 594 (sc-374118 AF594) or Alexa Fluor[®] 647 (sc-374118 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-374118 AF680) or Alexa Fluor[®] 790 (sc-374118 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

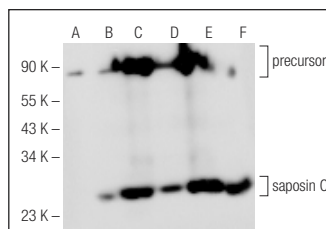
saposin C (A-3) is recommended for detection of prosaposin and mature saposin C of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 C siRNA (m): sc-41647, saposin shRNA Plasmid (h): sc-44456-SH, saposin C shRNA Plasmid (m): sc-41647-SH, saposin shRNA (h) Lentiviral Particles: sc-44456-V and saposin C shRNA (m) Lentiviral Particles: sc-41647-V.

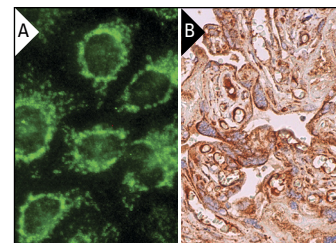
Molecular Weight of prosaposin: 70 kDa.

Positive Controls: saposin (h2): 293T Lysate: sc-170822, HeLa whole cell lysate: sc-2200 or A-431 whole cell lysate: sc-2201.

DATA



saposin C (A-3): sc-374118. Western blot analysis of saposin expression in non-transfected 293T: sc-117752 (A), human saposin transfected 293T: sc-170822 (B), A-431 (C), HeLa (D), Hep G2 (E) and NTERA-2 cl.D1 (F) whole cell lysates.



saposin C (A-3): sc-374118. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells (B).

SELECT PRODUCT CITATIONS

1. 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.
2. Prieto Huarcaya, S., et al. 2022. Recombinant pro-CTSD (cathepsin D) enhances SNCA/ α -Synuclein degradation in α -Synucleinopathy models. *Autophagy* 18: 1127-1151.

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.

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