

saposin D (E-14)-R: sc-27024-R

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 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. Fluharty, C.B., et al. 2001. Comparative lipid binding study on the cerebroside sulfate activator (saposin B). *J. Neurosci. Res.* 63: 82-89.
7. Ahn, V.E., et al. 2003. 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; Psap (mouse) mapping to 10 B4.

SOURCE

saposin D (E-14)-R is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of saposin D of mouse 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-27024 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

saposin D (E-14)-R is recommended for detection of saposin D of mouse, rat and 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).

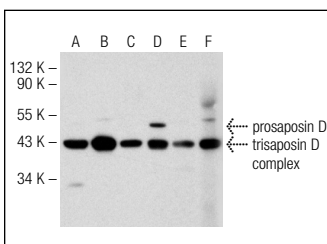
Suitable for use as control antibody for saposin siRNA (h): sc-44456, saposin siRNA (m): sc-44457, saposin shRNA Plasmid (h): sc-44456-SH, saposin shRNA Plasmid (m): sc-44457-SH, saposin shRNA (h) Lentiviral Particles: sc-44456-V and saposin shRNA (m) Lentiviral Particles: sc-44456-V.

Positive Controls: IMR-32 cell lysate: sc-2409, Hep G2 cell lysate: sc-2227 or Jurkat whole cell lysate: sc-2204.

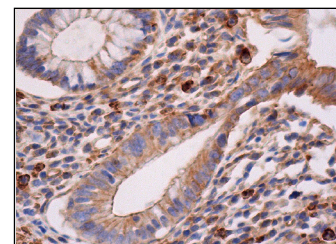
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



saposin D (E-14)-R: sc-27024-R. Western blot analysis of saposin D expression in IMR-32 (A), KNRK (B), Hep G2 (C), Jurkat (D) and U-2 OS (E) whole cell lysates and rat placenta tissue extract (F).



saposin D (E-14): sc-27024. Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic staining of glandular cells.

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.