SANTA CRUZ BIOTECHNOLOGY, INC.

SAP 61 (A-5): sc-376266

BACKGROUND

SAP 61, also known as SF3A3 (splicing factor 3A subunit 3), PRP9, PRPF9 or SF3a60, is a 501 amino acid protein that contains one matrin-type zinc finger and belongs to the SF3A3 family. Localized to the nucleus, SAP 61 is a subunit of the SF3A splicing factor, a heterotrimeric complex comprised of three subunits that act in tandem to mediate the binding of U2 snRNP to the branch-point sequence (BPS) in pre-mRNA. The SF3A complex is necessary for the conversion of 15S U2 snRNP into the active 17S protein that performs directly in pre-mRNA splicing events. Functioning as the third subunit of the complex, SAP 61 interacts with subunit 1 (SAP 114) via its N-terminus, while simultaneously binding to 15S U2 snRNP via its zinc finger domain. As is the case for all SF3A subunits, SAP 61 is essential for prespliceosome assembly and cell viability. In addition, a pseudogene exists for SAP 61 on chromosome 20.

REFERENCES

1. Krämer, A., et al. 1994. Splicing factor SF3a60 is the mammalian homologue of PRP9 of *S. cerevisiae:* the conserved zinc finger-like motif is functionally exchangeable *in vivo*. Nucleic Acids Res. 22: 5223-5228.
2. Chiara, M.D., et al. 1994. Specific protein-protein interactions between the essential mammalian spliceosome-associated proteins SAP 61 and SAP 114. Proc. Natl. Acad. Sci. USA 91: 6403-6407.
3. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 605596. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Nesic, D., et al. 2004. A role for Cajal bodies in the final steps of U2 SnRNP biogenesis. J. Cell Sci. 117: 4423-4433.
5. Krämer, A., et al. 2005. Structure-function analysis of the U2 SnRNP-associated splicing factor SF3a. Biochem. Soc. Trans. 33: 439-442.
6. Tanackovic, G., et al. 2005. Human splicing factor SF3a, but not SF1, is essential for pre-mRNA splicing *in vivo*. Mol. Biol. Cell 16: 1366-1377.
7. Dybkov, O., et al. 2006. U2 snRNA-protein contacts in purified human 17S U2 SnRNPs and in spliceosomal A and B complexes. Mol. Cell. Biol. 26: 2803-2816.

CHROMOSOMAL LOCATION

Genetic locus: SF3A3 (human) mapping to 1p34.3; Sf3a3 (mouse) mapping to 4 D2.2.

SOURCE

SAP 61 (A-5) is a mouse monoclonal antibody raised against amino acids 1-270 mapping at the N-terminus of SAP 61 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

SAP 61 (A-5) is recommended for detection of SAP 61 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).

SAP 61 (A-5) is also recommended for detection of SAP 61 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SAP 61 siRNA (h): sc-76443, SAP 61 siRNA (m): sc-76444, SAP 61 shRNA Plasmid (h): sc-76443-SH, SAP 61 shRNA Plasmid (m): sc-76444-SH, SAP 61 shRNA (h) Lentiviral Particles: sc-76443-V and SAP 61 shRNA (m) Lentiviral Particles: sc-76444-V.

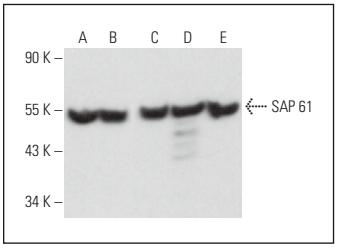
Molecular Weight of SAP 61: 60 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

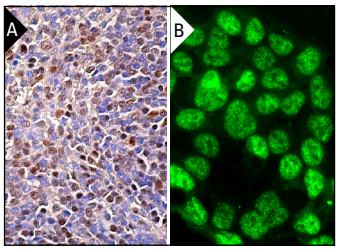
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



SAP 61 (A-5): sc-376266. Western blot analysis of SAP 61 expression in A-431 (**A**), HeLa (**B**), NIH/3T3 (**C**), Jurkat (**D**) and F9 (**E**) whole cell lysates.



SAP 61 (A-5): sc-376266. Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing nuclear staining of subset of cells in white and red pulps (**A**). Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization (**B**).

RESEARCH USE

For research use only, not for use in diagnostic procedures.