

SAP 61 (C-20): sc-68786

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 pre-spliceosome assembly and cell viability. In addition, a pseudogene exists for SAP 61 on chromosome 20.

REFERENCES

- 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.
- 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.
- 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/>
- Nesic, D., et al. 2004. A role for Cajal bodies in the final steps of U2 SnRNP biogenesis. *J. Cell Sci.* 19: 4423-4433.
- Krämer, A., et al. 2005. Structure-function analysis of the U2 SnRNP-associated splicing factor SF3a. *Biochem. Soc. Trans.* 3: 439-442.
- 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.
- 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.
- Kuwasaki, K., et al. 2006. Solution structures of the SURP domains and the subunit-assembly mechanism within the splicing factor SF3a complex in 17S U2 SnRNP. *Structure* 14: 1677-1689.
- Yuan, X., et al. 2007. Nuclear protein profiling of Jurkat cells during heat stress-induced apoptosis by 2-DE and MS/MS. *Electrophoresis* 28: 2018-2026.

CHROMOSOMAL LOCATION

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

SOURCE

SAP 61 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SAP 61 of human 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-68786 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-68786 X, 200 µg/0.1 ml.

APPLICATIONS

SAP 61 (C-20) is recommended for detection of SAP 61 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

SAP 61 (C-20) is also recommended for detection of SAP 61 in additional species, including equine, canine, bovine, porcine and avian.

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.

SAP 61 (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of SAP 61: 60 kDa.

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

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) 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.

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.