

SAP 155 (G-9): sc-514494

BACKGROUND

SAP 155 (spliceosome-associated protein 155), also known as SF3B1, SF3B155 (splicing factor 3 β , subunit 1, 155 kDa), PRP10 or PRPF10, is a 1,304 amino acid member of the SF3B1 family and contains 11 HEAT repeats. Localized to nuclear speckles and also to the cytoplasm during mitosis, SAP 155 is a subunit of the SF3B splicing factor. The SF3B splicing factor is a U2 snRNP-associated protein complex essential for spliceosome assembly. SF3B contains the spliceosomal proteins SAP 49, SAP 130, SAP 145 and SAP 155. Concomitant with splicing catalysis, SAP 155 is phosphorylated at its N-terminal Thr-Pro dipeptide motifs by Dyrk1A and cyclin E/Cdk2. This modification of SAP 155 is vital for a functional spliceosome as it is an essential event in the basic splicing reaction. Due to alternative splicing events, various SAP 155 isoforms are produced.

REFERENCES

- Wang, C., et al. 1998. Phosphorylation of spliceosomal protein SAP 155 coupled with splicing catalysis. *Genes Dev.* 12: 1409-1414.
- Isono, K., et al. 2001. Molecular cloning, genetic mapping, and expression of the mouse Sf3b1 (SAP 155) gene for the U2 snRNP component of spliceosome. *Mamm. Genome* 12: 192-198.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605590. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Golas, M.M., et al. 2003. Molecular architecture of the multiprotein splicing factor SF3B. *Science* 300: 980-984.
- Isono, K., et al. 2005. Mammalian polycomb-mediated repression of Hox genes requires the essential spliceosomal protein SF3B1. *Genes Dev.* 19: 536-541.
- Cass, D.M., et al. 2006. The SF3B155 N-terminal domain is a scaffold important for splicing. *Biochemistry* 45: 10092-10101.
- Massiello, A., et al. 2006. SAP 155 binds to ceramide-responsive RNA cis-element 1 and regulates the alternative 5' splice site selection of Bcl-x pre-mRNA. *FASEB J.* 20: 1680-1682.
- Thickman, K.R., et al. 2006. Multiple U2AF65 binding sites within SF3B155: thermodynamic and spectroscopic characterization of protein-protein interactions among pre-mRNA splicing factors. *J. Mol. Biol.* 356: 664-683.
- Avila, M.L., et al. 2007. Mapping of the protein-binding interface between splicing factors SF3B155 and p14 of *Trypanosoma cruzi*. *Biochem. Biophys. Res. Commun.* 364: 26-32.

CHROMOSOMAL LOCATION

Genetic locus: SF3B1 (human) mapping to 2q33.1; Sf3b1 (mouse) mapping to 1 C1.2.

SOURCE

SAP 155 (G-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 7-26 at the N-terminus of SAP 155 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-514494 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

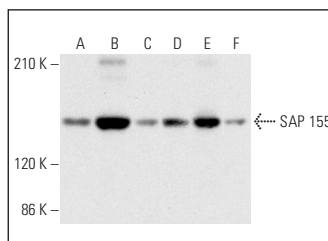
SAP 155 (G-9) is recommended for detection of SAP 155 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SAP 155 siRNA (h): sc-94471, SAP 155 siRNA (m): sc-153216, SAP 155 shRNA Plasmid (h): sc-94471-SH, SAP 155 shRNA Plasmid (m): sc-153216-SH, SAP 155 shRNA (h) Lentiviral Particles: sc-94471-V and SAP 155 shRNA (m) Lentiviral Particles: sc-153216-V.

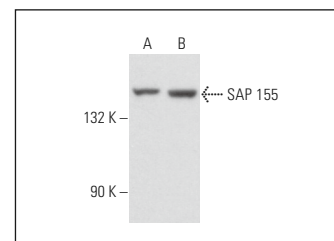
Molecular Weight of SAP 155: 155 kDa.

Positive Controls: K-562 nuclear extract: sc-2130, Jurkat nuclear extract: sc-2132 or Ramos nuclear extract: sc-2153.

DATA



SAP 155 (G-9): sc-514494. Western blot analysis of SAP 155 expression in Ramos (A), K-562 (B) and Jurkat (C) nuclear extracts and HeLa (D), K-562 (E) and RT-4 (F) whole cell lysates.



SAP 155 (G-9): sc-514494. Western blot analysis of SAP 155 expression in Ramos nuclear extract (A) and CCRF-CEM whole cell lysate (B).

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.