SANTA CRUZ BIOTECHNOLOGY, INC.

SAP 49 (G-3): sc-365571

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

SF3B 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. SAP 130, SAP 145 and SAP 155 are present in a protein complex in HeLa nuclear extracts and associate with one another. While SAP 155 and SAP 130 interact with each other (directly or indirectly) within this complex, SAP 49 and SAP 145 are known to interact directly with each other. Unexpectedly, the SAP 49-SAP 145 protein-protein interaction requires the amino-terminus of SAP 49, which contains two RNA-recognition motifs. The observation that SAP 49 and SAP 145 interact directly with both U2 snRNP and the pre-mRNA suggests that this protein complex plays a role in tethering U2 snRNP to the branch site.

REFERENCES

1. Champion-Arnaud, P., et al. 1994. The prespliceosome components SAP 49 and SAP 145 interact in a complex implicated in tethering U2 snRNP to the branch site. Genes Dev. 8: 1974-1983.
2. Wells, S.E., et al. 1996. CUS1, a suppressor of cold-sensitive U2 snRNA mutations, is a novel yeast splicing factor homologous to human SAP 145. Genes Dev. 10: 220-232.
3. Ruiz-Lozano, P., et al. 1997. Developmental expression of the murine spliceosome-associated protein mSAP 49. Dev. Dyn. 208: 482-490.
4. Tanaka, Y., et al. 1997. Polycistronic expression and RNA-binding specificity of the *C. elegans* homologue of the spliceosome-associated protein SAP 49. J. Biochem. 121: 739-745.
5. Bouck, J., et al. 1998. Role of the constitutive splicing factors U2AF65 and SAP 49 in suboptimal RNA splicing of novel retroviral mutants. J. Biol. Chem. 273: 15169-15176.
6. Igel, H., et al. 1998. Conservation of structure and subunit interactions in yeast homologues of splicing factor 3b (SF3B) subunits. RNA 4: 1-10.
7. Das, B.K., et al. 1999. Characterization of a protein complex containing spliceosomal proteins SAPs 49, 130, 145, and 155. Mol. Cell. Biol. 19: 6796-6802.

CHROMOSOMAL LOCATION

Genetic locus: SF3B4 (human) mapping to 1q21.2; Sf3b4 (mouse) mapping to 3 F2.1.

SOURCE

SAP 49 (G-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 192-213 within an internal region of SAP 49 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.

Blocking peptide available for competition studies, sc-365571 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

SAP 49 (G-3) is recommended for detection of SAP 49 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SAP 49 (G-3) is also recommended for detection of SAP 49 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for SAP 49 siRNA (h): sc-38313, SAP 49 siRNA (m): sc-153218, SAP 49 shRNA Plasmid (h): sc-38313-SH, SAP 49 shRNA Plasmid (m): sc-153218-SH, SAP 49 shRNA (h) Lentiviral Particles: sc-38313-V and SAP 49 shRNA (m) Lentiviral Particles: sc-153218-V.

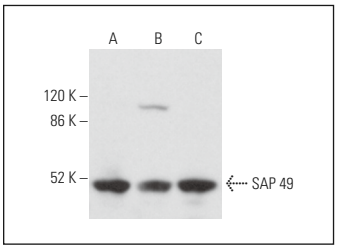
Molecular Weight of SAP 49: 49 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, 3T3-L1 cell lysate: sc-2243 or PC-3 cell lysate: sc-2220.

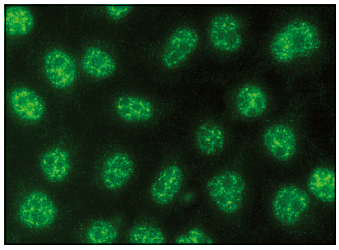
RECOMMENDED SUPPORT REAGENTS

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.

DATA



SAP 49 (G-3): sc-365571. Western blot analysis of SAP 49 expression in PC-3 (**A**), 3T3-L1 (**B**) and KNRK (**C**) whole cell lysates.



SAP 49 (G-3): sc-365571. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

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.