SAP 49 (h): 293T Lysate: sc-111525



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

- Champion-Arnaud, P. and Reed, R. 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.
- Wells, S.E., Neville, M., Haynes, M., Wang, J., Igel, H. and Ares, M., Jr. 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.
- Ruiz-Lozano, P., Doevendans, P., Brown, A., Gruber, P.J. and Chien, K.R. 1997. Developmental expression of the murine spliceosome-associated protein mSAP 49. Dev. Dyn. 208: 482-490.
- Tanaka, Y., Ohta, A., Terashima, K. and Sakamoto, H. 1997. Polycistronic expression and RNA-binding specificity of the *C. elegans* homologue of the spliceosome-associated protein SAP 49. J. Biochem. 121: 739-745.
- Bouck, J., Fu, X.D., Skalka, A.M. and Katz, R.A. 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.
- Igel, H., Wells, S., Perriman, R. and Ares, M., Jr. 1998. Conservation of structure and subunit interactions in yeast homologues of splicing factor 3b (SF3B) subunits. RNA 4: 1-10.
- Kramer, A., Gruter, P., Groning, K. and Kastner, B. 1999. Combined biochemical and electron microscopic analyses reveal the architecture of the mammalian U2 snRNP. J. Cell Biol. 145: 1355-1368.
- Das, B.K., Xia, L., Palandjian, L., Gozani, O., Chyung, Y. and Reed, R. 1999. Characterization of a protein complex containing spliceosomal proteins SAPs 49, 130, 145, and 155. Mol. Cell. Biol. 19: 6796-6802.
- Watanabe, H., Shionyu, M., Kimura, T., Kimata, K. and Watanabe, H. 2007 Splicing factor 3b subunit 4 binds BMPR-IA and inhibits osteochondral cell differentiation. J. Biol. Chem. 282: 20728-20738.

CHROMOSOMAL LOCATION

Genetic locus: SF3B4 (human) mapping to 1q21.2.

PRODUCT

SAP 49 (h): 293T Lysate represents a lysate of human SAP 49 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

SAP 49 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive SAP 49 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.