

## SF3B3 (B-4): sc-398670

### BACKGROUND

SF3B is a U2 snRNP-associated protein complex essential for spliceosome assembly. SF3B contains the spliceosomal proteins SAP 49, SAP 130 (also known as SF3B3), SAP 145 and SAP 155. SF3B3, SAP 145 and SAP 155 are present in a protein complex in HeLa nuclear extracts and associate with one another. While SF3B3 and SAP 155 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. 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.
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. Igel, H., et al. 1998. Conservation of structure and subunit interactions in yeast homologues of splicing factor 3b (SF3b) subunits. *RNA* 4: 1-10.
4. 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.
5. Kramer, A., et al. 1999. Combined biochemical and electron microscopic analyses reveal the architecture of the mammalian U2 snRNP. *J. Cell Biol.* 145: 1355-1368.

### CHROMOSOMAL LOCATION

Genetic locus: SF3B3 (human) mapping to 16q22.1; Sf3b3 (mouse) mapping to 8 E1.

### SOURCE

SF3B3 (B-4) is a mouse monoclonal antibody raised against amino acids 388-687 mapping within an internal region of SF3B3 of human origin.

### PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SF3B3 (B-4) is available conjugated to agarose (sc-398670 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398670 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398670 PE), fluorescein (sc-398670 FITC), Alexa Fluor<sup>®</sup> 488 (sc-398670 AF488), Alexa Fluor<sup>®</sup> 546 (sc-398670 AF546), Alexa Fluor<sup>®</sup> 594 (sc-398670 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-398670 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-398670 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-398670 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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### APPLICATIONS

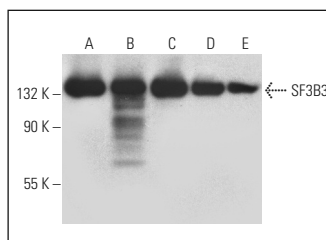
SF3B3 (B-4) is recommended for detection of SF3B3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SF3B3 (B-4) is also recommended for detection of SF3B3 in additional species, including equine, canine, bovine and avian.

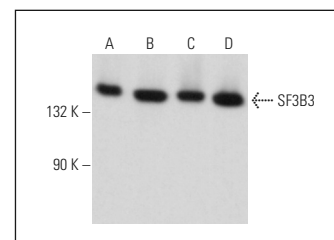
Suitable for use as control antibody for SF3B3 siRNA (h): sc-38314, SF3B3 siRNA (m): sc-38315, SF3B3 shRNA Plasmid (h): sc-38314-SH, SF3B3 shRNA Plasmid (m): sc-38315-SH, SF3B3 shRNA (h) Lentiviral Particles: sc-38314-V and SF3B3 shRNA (m) Lentiviral Particles: sc-38315-V.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or RT-4 whole cell lysate: sc-364257.

### DATA



SF3B3 (B-4): sc-398670. Western blot analysis of SF3B3 expression in Jurkat (A), U-937 (B), HeLa (C), RT-4 (D) and U-251-MG (E) whole cell lysates.



SF3B3 (B-4): sc-398670. Western blot analysis of SF3B3 expression in Jurkat (A), SP2/O (B), BYDP (C) and KNRK (D) whole cell lysates.

### SELECT PRODUCT CITATIONS

1. Duan, L., et al. 2019. Histone lysine demethylase KDM4B regulates the alternative splicing of the androgen receptor in response to androgen deprivation. *Nucleic Acids Res.* 47: 11623-11636.
2. Editorial Office. 2021. Erratum to spliceosome-associated protein 130: a novel biomarker for idiopathic pulmonary fibrosis. *Ann. Transl. Med.* 9: 1111.
3. Lv, L.L., et al. 2021. SAP 130 released by damaged tubule drives necroinflammation via miRNA-219c/Mincle signaling in acute kidney injury. *Cell Death Dis.* 12: 866.

### 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](http://www.scbt.com) for detailed protocols and support products.