SANTA CRUZ BIOTECHNOLOGY, INC.

SAP 155 (B-3): sc-514655

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

SAP 155 (spliceosome-associated protein 155), also known as SF3B1, SF3B155 (splicing factor 3b, 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.

CHROMOSOMAL LOCATION

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

SOURCE

SAP 155 (B-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 7-23 at the N-terminus of SAP 155 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.

SAP 155 (B-3) is available conjugated to agarose (sc-514655 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514655 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514655 PE), fluorescein (sc-514655 FITC), Alexa Fluor® 488 (sc-514655 AF488), Alexa Fluor® 546 (sc-514655 AF546), Alexa Fluor® 594 (sc-514655 AF594) or Alexa Fluor® 647 (sc-514655 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514655 AF680) or Alexa Fluor® 790 (sc-514655 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514655 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

SAP 155 (B-3) 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 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).

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.

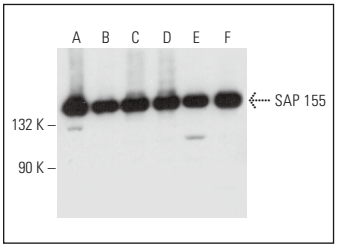
Molecular Weight of SAP 155: 155 kDa.

Positive Controls: MCF7 nuclear extract: sc-2149, Ramos nuclear extract: sc-2153 or HeLa whole cell lysate: sc-2200.

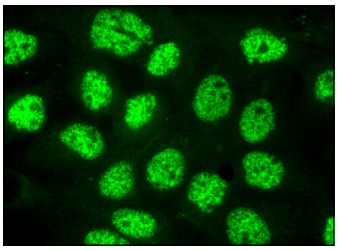
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



SAP 155 (B-3): sc-514655. Western blot analysis of SAP 155 expression in MCF7 (**A**), Ramos (**B**), K-562 (**C**) and Jurkat (**D**) nuclear extracts and HeLa (**E**) and K-562 (**F**) whole cell lysates.



SAP 155 (B-3): sc-514655. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Fei, J., et al. 2017. Quantitative analysis of multilayer organization of proteins and RNA in nuclear speckles at super resolution. J. Cell Sci. 130: 4180-4192.
2. Li, C., et al. 2020. Somatic SF3B1 hotspot mutation in prolactinomas. Nat. Commun. 11: 2506.
3. Puvvula, P.K., et al. 2021. Inhibiting an RBM39/MLL1 epigenomic regulatory complex with dominant-negative peptides disrupts cancer cell transcription and proliferation. Cell Rep. 35: 109156.
4. Yildirim, A., et al. 2021. SANS (USH1G) regulates pre-mRNA splicing by mediating the intra-nuclear transfer of tri-snRNP complexes. Nucleic Acids Res. 49: 5845-5866.
5. Matsumoto, K., et al. 2021. G-quadruplex-forming nucleic acids interact with SF3B2 and suppress innate immune gene expression. Genes Cells 26: 65-82.
6. Bousquets-Muñoz, P., et al. 2022. PanCancer analysis of somatic mutations in repetitive regions reveals recurrent mutations in snRNA U2. NPJ Genom. Med. 7: 19.
7. Josipovic, N., et al. 2022. circRAB3IP modulates cell proliferation by reorganizing gene expression and mRNA processing in a paracrine manner. RNA 28: 1481-1495.
8. Shen, L., et al. 2024. Loss-of-function mutation in PRMT9 causes abnormal synapse development by dysregulation of RNA alternative splicing. Nat. Commun. 15: 2809.
9. Yang, B.Z., et al. 2024. DHX9 SUMOylation is required for the suppression of R-loop-associated genome instability. Nat. Commun. 15: 6009.

RESEARCH USE

For research use only, not for use in diagnostic procedures.