SANTA CRUZ BIOTECHNOLOGY, INC.

U2AF65 (MC3): sc-53942

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 SAPs 49, 130, 145 and 155. SAPs 130, 145 and 155 associate with one another to form a complex that is present in HeLa nuclear extracts. SAPs 49 and 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. SAP 49 and SAP 145 interact directly with both U2 snRNP and the pre-mRNA, which suggests that this protein complex plays a role in tethering U2 snRNP to the branch site. U2AF recruits SAP 49 to the branch point sequence during the initial steps of spliceosome assembly. U2AF exists as a heterodimer consisting of U2AF65 and U2AF35 and is required for splicing *in vivo*.

CHROMOSOMAL LOCATION

Genetic locus: U2AF2 (human) mapping to 19q13.42; U2af2 (mouse) mapping to 7 A1.

SOURCE

U2AF65 (MC3) is a mouse monoclonal antibody raised against recombinant U2AF65 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.

U2AF65 (MC3) is available conjugated to agarose (sc-53942 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-53942 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53942 PE), fluorescein (sc-53942 FITC), Alexa Fluor® 488 (sc-53942 AF488), Alexa Fluor® 546 (sc-53942 AF546), Alexa Fluor® 594 (sc-53942 AF594) or Alexa Fluor® 647 (sc-53942 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53942 AF680) or Alexa Fluor® 790 (sc-53942 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

U2AF65 (MC3) is recommended for detection of U2AF65 of mouse, rat, human and *Xenopus laevis* origin by Western Blotting (starting dilution 1:200, 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for U2AF65 siRNA (h): sc-37667, U2AF65 siRNA (m): sc-37668, U2AF65 shRNA Plasmid (h): sc-37667-SH, U2AF65 shRNA Plasmid (m): sc-37668-SH, U2AF65 shRNA (h) Lentiviral Particles: sc-37667-V and U2AF65 shRNA (m) Lentiviral Particles: sc-37668-V.

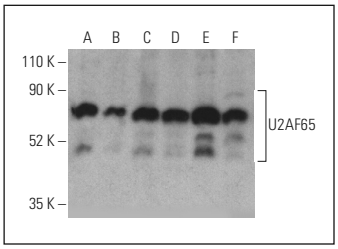
Molecular Weight of U2AF65: 65 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, SK-N-MC nuclear extract: sc-2154 or HEK293 whole cell lysate: sc-45136.

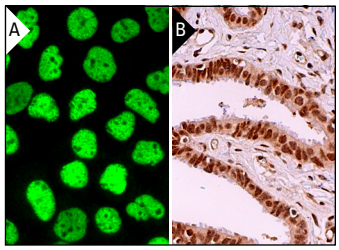
STORAGE

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

DATA



U2AF65 (MC3) HRP: sc-53942 HRP. Direct western blot analysis of U2AF65 expression in Jurkat (**A**) and SK-N-MC (**B**) nuclear extracts and HeLa (**C**), HEK293 (**D**), Jurkat (**E**) and NIH/3T3 (**F**) whole cell lysates.



U2AF65 (MC3): sc-53942. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing nuclear staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Izquierdo, J.M., et al. 2007. Fas-activated serine/threonine kinase (FAST K) synergizes with TIA-1/TIAR proteins to regulate Fas alternative splicing. J. Biol. Chem. 282: 1539-1543.
2. Nasrin, F., et al. 2014. HnRNP C, YB-1 and hnRNP L coordinately enhance skipping of human MUSK exon 10 to generate a Wnt-insensitive MuSK isoform. Sci. Rep. 4: 6841.
3. Jakubauskiene, E., et al. 2015. Gastrointestinal tract tumors and cell lines possess differential splicing factor expression and tumor associated mRNA isoform formation profiles. Cancer Biomark. 15: 575-581.
4. Martinez-Nunez, R.T., et al. 2016. Modulation of nonsense mediated decay by rapamycin. Nucleic Acids Res. 45: 3448-3459.
5. Marchesini, M., et al. 2017. ILF2 is a regulator of RNA splicing and DNA damage response in 1q21-amplified multiple myeloma. Cancer Cell 32: 88-100.e6.
6. Howard, J.M., et al. 2018. HNRNPA1 promotes recognition of splice site decoys by U2AF2 *in vivo*. Genome Res. 28: 689-698.
7. Takayama, K.I., et al. 2020. Identification of long non-coding RNAs in advanced prostate cancer associated with androgen receptor splicing factors. Commun. Biol. 3: 393.
8. 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.
9. Duan, L., et al. 2022. Nuclear RNA binding regulates TDP-43 nuclear localization and passive nuclear export. Cell Rep. 40: 111106.

RESEARCH USE

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