SANTA CRUZ BIOTECHNOLOGY, INC.

CPSF6 (F-3): sc-376228

BACKGROUND

3' ends of eukaryotic mRNAs can undergo processing events that include endonucleolytic cleavage and polyadenylation. Cleavage and polyadenylation specificity factors (CPSF) mediate 3' cleavage of the transcript and subsequent polyadenylation. CPSF6, also known as CFIm68 (mammalian cleavage factor I, 68 kDa subunit), HPBRII-4 or HPBRII-7, is a member of the CPSF6/7 family and contains an N-terminal RNA recognition motif (RRM) and a C-terminal RS-like domain. Via its RS-like domain, CPSF6 interacts with SRp20, Tra-2β and 9G8. CPSF6 localizes to the paraspeckles and forms a heterodimer with NUDT21, comprising the CFIm complex which is essential for the first step in pre-mRNA 3' cleavage and polyadenylation processing. CPSF6 is the larger subunit of the complex and is present in only half of the two heterodimer combinations (the other half being a dimer of NUDT21 and CPSF7).

REFERENCES

1. Jenny, A., et al. 1996. Sequence similarity between the 73-kilodalton protein of mammalian CPSF and a subunit of yeast polyadenylation factor I. Science 274: 1514-1517.
2. Salinas, C.A., et al. 1998. Characterization of a *Drosophila* homologue of the 160-kDa subunit of the cleavage and polyadenylation specificity factor CPSF. Mol. Gen. Genet. 257: 672-680.
3. Edmonds, M. 2002. A history of poly A sequences: from formation to factors to function. Prog. Nucleic Acid Res. Mol. Biol. 71: 285-389.

CHROMOSOMAL LOCATION

Genetic locus: CPSF6 (human) mapping to 12q15; Cpsf6 (mouse) mapping to 10 D2.

SOURCE

CPSF6 (F-3) is a mouse monoclonal antibody raised against amino acids 167-225 mapping within an internal region of CPSF6 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CPSF6 (F-3) is available conjugated to agarose (sc-376228 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376228 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376228 PE), fluorescein (sc-376228 FITC), Alexa Fluor® 488 (sc-376228 AF488), Alexa Fluor® 546 (sc-376228 AF546), Alexa Fluor® 594 (sc-376228 AF594) or Alexa Fluor® 647 (sc-376228 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376228 AF680) or Alexa Fluor® 790 (sc-376228 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

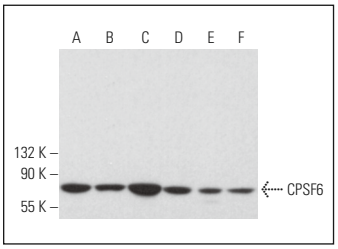
CPSF6 (F-3) is recommended for detection of CPSF6 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). CPSF6 (F-3) is also recommended for detection of CPSF6 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for CPSF6 siRNA (h): sc-72990, CPSF6 siRNA (m): sc-72991, CPSF6 shRNA Plasmid (h): sc-72990-SH, CPSF6 shRNA Plasmid (m): sc-72991-SH, CPSF6 shRNA (h) Lentiviral Particles: sc-72990-V and CPSF6 shRNA (m) Lentiviral Particles: sc-72991-V.

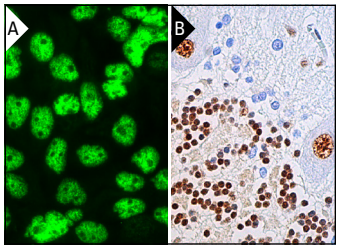
Molecular Weight of CPSF6: 68 kDa.

Positive Controls: C6 whole cell lysate: sc-364373, Caki-1 cell lysate: sc-2224 or 3T3-L1 cell lysate: sc-2243.

DATA



CPSF6 (F-3): sc-376228. Western blot analysis of CPSF6 expression in Caki-1 (**A**), 3T3-L1 (**B**), HL-60 (**C**), RAW 264.7 (**D**), EOC 20 (**E**) and C6 (**F**) whole cell lysates.



CPSF6 (F-3): sc-376228. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing nuclear staining of Purkinje cells, cells in granular layer and subset of cells in molecular layer (**B**).

SELECT PRODUCT CITATIONS

1. Rasheedi, S., et al. 2016. The cleavage and polyadenylation specificity factor 6 (CPSF6) subunit of the capsid-recruited pre-messenger RNA cleavage factor I (CFIm) complex mediates HIV-1 integration into genes. J. Biol. Chem. 291: 11809-11819.
2. Gaucherand, L., et al. 2019. The Influenza A Virus endoribonuclease PA-X usurps host mRNA processing machinery to limit host gene expression. Cell Rep. 27: 776-792.e7.
3. Xie, L., et al. 2020. MxB impedes the NUP358-mediated HIV-1 pre-integration complex nuclear import and viral replication cooperatively with CPSF6. Retrovirology 17: 16.
4. Luchsinger, C., et al. 2023. Formation of nuclear CPSF6/CPSF5 biomolecular condensates upon HIV-1 entry into the nucleus is important for productive infection. Sci. Rep. 13: 10974.

RESEARCH USE

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