SANTA CRUZ BIOTECHNOLOGY, INC.

CPSF2 (A-11): sc-165983

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

3' ends of eukaryotic mRNAs can undergo processing events that include endonucleolytic cleavage and polyadenylation. Cleavage and polyadenylation specificity factor (CPSF) mediates 3' cleavage of the transcript and subsequent polyadenylation. CPSF contains four subunits and localizes to the nucleoplasm where it recognizes the AAUAAA signal in pre-mRNA and interacts with other proteins to facilitate RNA cleavage and poly(A) synthesis. The human CPSF2 gene maps to chromosome 14q32.12 and encodes the second largest subunit of cleavage and polyadenylation specificity factor. U1 snRNP-A protein (U1A) interacts with and affects the activity of CPSF by stabilizing the interaction of CPSF with the AAUAAA-containing RNAs to increase the efficiency of polyadenylation.

CHROMOSOMAL LOCATION

Genetic locus: CPSF2 (human) mapping to 14q32.12; Cpsf2 (mouse) mapping to 12 E.

SOURCE

CPSF2 (A-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 258-295 within an internal region of CPSF2 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.

CPSF2 (A-11) is available conjugated to agarose (sc-165983 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-165983 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-165983 PE), fluorescein (sc-165983 FITC), Alexa Fluor® 488 (sc-165983 AF488), Alexa Fluor® 546 (sc-165983 AF546), Alexa Fluor® 594 (sc-165983 AF594) or Alexa Fluor® 647 (sc-165983 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-165983 AF680) or Alexa Fluor® 790 (sc-165983 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-165983 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

CPSF2 (A-11) is recommended for detection of CPSF2 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). CPSF2 (A-11) is also recommended for detection of CPSF2 in additional species, including equine, canine, bovine and avian.

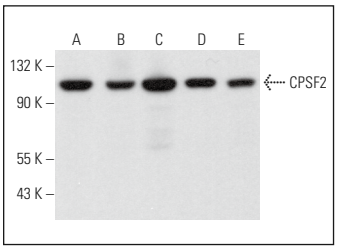
Suitable for use as control antibody for CPSF2 siRNA (h): sc-105242, CPSF2 siRNA (m): sc-142546, CPSF2 shRNA Plasmid (h): sc-105242-SH, CPSF2 shRNA Plasmid (m): sc-142546-SH, CPSF2 shRNA (h) Lentiviral Particles: sc-105242-V and CPSF2 shRNA (m) Lentiviral Particles: sc-142546-V.

Molecular Weight of CPSF2: 103 kDa.

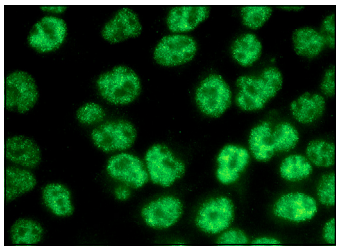
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



CPSF2 (A-11): sc-165983. Western blot analysis of CPSF2 expression in A549 (**A**), SH-SY5Y (**B**), RAW 264.7 (**C**) and C6 (**D**) whole cell lysates and NIH/3T3 nuclear extract (**E**).



CPSF2 (A-11): sc-165983. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Wagner, L.M. and DeLuca, N.A. 2013. Temporal association of herpes simplex virus ICP4 with cellular complexes functioning at multiple steps in PolII transcription. PLoS ONE 8: e78242.
2. Nilubol, N., et al. 2014. Loss of CPSF2 expression is associated with increased thyroid cancer cellular invasion and cancer stem cell population, and more aggressive disease. J. Clin. Endocrinol. Metab. 99: E1173-E1182.
3. Barra, J., et al. 2020. Integrator restrains paraspeckles assembly by promoting isoform switching of the lncRNA NEAT1. Sci. Adv. 6: eaaz9072.
4. Mukherjee, S., et al. 2023. Macrophage differentiation is marked by increased abundance of the mRNA 3' end processing machinery, altered poly(A) site usage, and sensitivity to the level of CstF64. Front. Immunol. 14: 1091403.
5. Torre, D., et al. 2023. Nuclear RNA catabolism controls endogenous retroviruses, gene expression asymmetry, and dedifferentiation. Mol. Cell 83: 4255-4271.e9.

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.