

CPSF3 (T-20): sc-26661

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 CPSF3 gene maps to chromosome 2p25.1 and encodes the second shortest 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.

REFERENCES

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- Lutz, C.S., et al. 1996. Interaction between the U1 snRNP-A protein and the 160 kDa subunit of cleavage-polyadenylation specificity factor increases polyadenylation efficiency *in vitro*. *Genes Dev.* 10: 325-337.
- 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.
- Barabino, S.M., et al. 1997. The 30 kDa subunit of mammalian cleavage and polyadenylation specificity factor and its yeast homolog are RNA-binding zinc-finger proteins. *Genes Dev.* 11: 1703-1716.
- 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.
- 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: CPSF3 (human) mapping to 2p25.1; Cpsf3 (mouse) mapping to 12 A1.2.

SOURCE

CPSF3 (T-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of CPSF3 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-26661 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

CPSF3 (T-20) is recommended for detection of CPSF3 of mouse, rat and human 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

CPSF3 (T-20) is also recommended for detection of CPSF3 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for CPSF3 siRNA (h): sc-105243, CPSF3 siRNA (m): sc-142547, CPSF3 shRNA Plasmid (h): sc-105243-SH, CPSF3 shRNA Plasmid (m): sc-142547-SH, CPSF3 shRNA (h) Lentiviral Particles: sc-105243-V and CPSF3 shRNA (m) Lentiviral Particles: sc-142547-V.

Molecular Weight of CPSF3: 73 kDa.

Positive Controls: HeLa nuclear extract: sc-2120.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

- Martin G, et al. 2012. Genome-wide analysis of pre-mRNA 3' end processing reveals a decisive role of human cleavage factor I in the regulation of 3' UTR length. *Cell Rep.* 1: 753-763.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **CPSF3 (C-3): sc-393001**, our highly recommended monoclonal alternative to CPSF3 (T-20).