

CstF-77 (F-3): sc-376553

BACKGROUND

Polyadenylation of mRNA precursors is a two-step reaction that requires multiple protein factors. The first step, endonucleolytic cleavage of polyadenylation substrates, requires CstF (cleavage stimulation factor), a heterotrimer that is composed of three distinct subunits. Heterotrimeric CstF recognizes GU- and U-rich sequences located downstream of the polyadenylation site on RNA. CstF-77 (cleavage stimulation factor, 77 kDa subunit), also known as CstF3, is one of the three subunits comprising CstF. It can exist as a homodimer and functions as the bridge, directly interacting with the other two CstF subunits, namely CstF-64 and CstF-50. CstF-77 is highly conserved among eukaryotes. It contains an α -helical structure with 11 HAT (Half-a-TPR-containing) repeats and is essential for CstF assembly. In addition, CstF-77 is capable of interacting with CPSF1 and FCP1, other factors involved in polyadenylation.

REFERENCES

1. Takagaki, Y., et al. 1990. A multisubunit factor, CstF, is required for polyadenylation of mammalian pre-mRNAs. *Genes Dev.* 4: 2112-2120.
2. Takagaki, Y., et al. 1997. RNA recognition by the human polyadenylation factor CstF. *Mol. Cell. Biol.* 17: 3907-3914.
3. Kleiman, F.E., et al. 1999. Functional interaction of BRCA1-associated BARD1 with polyadenylation factor CstF-50. *Science* 285: 1576-1579.
4. Takagaki, Y., et al. 2000. Complex protein interactions within the human polyadenylation machinery identify a novel component. *Mol. Cell. Biol.* 20: 1515-1525.
5. Benoit, B., et al. 2002. Chimeric human CstF-77/*Drosophila* suppressor of forked proteins rescue suppressor of forked mutant lethality and mRNA 3' end processing in *Drosophila*. *Proc. Natl. Acad. Sci. USA* 99: 10593-10598.
6. Pan, Z., et al. 2006. An intronic polyadenylation site in human and mouse CstF-77 genes suggests an evolutionarily conserved regulatory mechanism. *Gene* 366: 325-334.
7. Bai, Y., et al. 2007. Crystal structure of murine CstF-77: dimeric association and implications for polyadenylation of mRNA precursors. *Mol. Cell* 25: 863-875.

CHROMOSOMAL LOCATION

Genetic locus: CSTF3 (human) mapping to 11p13; Cstf3 (mouse) mapping to 2 E2.

SOURCE

CstF-77 (F-3) is a mouse monoclonal antibody raised against amino acids 31-330 mapping near the N-terminus of CstF-77 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

CstF-77 (F-3) is recommended for detection of CstF-77 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

CstF-77 (F-3) is also recommended for detection of CstF-77 in additional species, including canine, bovine and avian.

Suitable for use as control antibody for CstF-77 siRNA (h): sc-96385, CstF-77 siRNA (m): sc-142610, CstF-77 shRNA Plasmid (h): sc-96385-SH, CstF-77 shRNA Plasmid (m): sc-142610-SH, CstF-77 shRNA (h) Lentiviral Particles: sc-96385-V and CstF-77 shRNA (m) Lentiviral Particles: sc-142610-V.

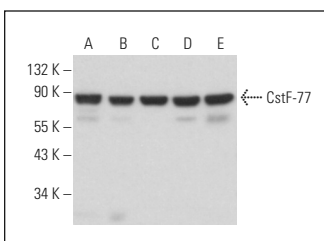
Molecular Weight of CstF-77: 77 kDa.

Positive Controls: RT-4 whole cell lysate: sc-364257, NIH/3T3 whole cell lysate: sc-2210 or KNRK whole cell lysate: sc-2214.

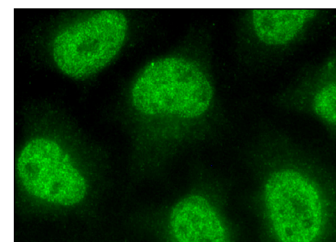
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



CstF-77 (F-3): sc-376553. Western blot analysis of CstF-77 expression in RT-4 (A), NIH/3T3 (B), 3T3-L1 (C), KNRK (D) and RPE-J (E) whole cell lysates.



CstF-77 (F-3): sc-376553. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Min, Z., et al. 2022. Chromodomain helicase DNA-binding domain 2 maintains spermatogonial self-renewal by promoting chromatin accessibility and mRNA stability. *iScience* 25: 105552.

RESEARCH USE

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