



CstF-77 (h): 293T Lysate: sc-111760

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., Manley, J.L., MacDonald, C.C., Wilusz, J. and Shenk, T. 1990. A multisubunit factor, CstF, is required for polyadenylation of mammalian pre-mRNAs. *Genes Dev.* 4: 2112-2120.
2. Takagaki, Y. and Manley, J.L. 1997. RNA recognition by the human polyadenylation factor CstF. *Mol. Cell. Biol.* 17: 3907-3914.
3. Kleiman, F.E. and Manley, J.L. 1999. Functional interaction of BRCA1-associated BARD1 with polyadenylation factor CstF-50. *Science* 285: 1576-1579.
4. Takagaki, Y. and Manley, J.L. 2000. Complex protein interactions within the human polyadenylation machinery identify a novel component. *Mol. Cell. Biol.* 20: 1515-1525.
5. Benoit, B., Juge, F., Iral, F., Audibert, A. and Simonelig, M. 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., Zhang, H., Hague, L.K., Lee, J.Y., Lutz, C.S. and Tian, B. 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., Auperin, T.C., Chou, C.Y., Chang, G.G., Manley, J.L. and Tong, L. 2007. Crystal structure of murine CstF-77: dimeric association and implications for polyadenylation of mRNA precursors. *Mol. Cell* 25: 863-875.
8. Legrand, P., Pinaud, N., Minvielle-Sébastien, L. and Fribourg, S. 2007. The structure of the CstF-77 homodimer provides insights into CstF assembly. *Nucleic Acids Res.* 35: 4515-4522.

CHROMOSOMAL LOCATION

Genetic locus: CSTF3 (human) mapping to 11p13.

PRODUCT

CstF-77 (h): 293T Lysate represents a lysate of human CstF-77 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

CstF-77 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive CstF-77 antibodies. Recommended use: 10-20 μ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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