



# CstF-64T (G-22): sc-133487

## 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. CstF-64 contains an RNA binding domain and is responsible for the RNA binding activity of CstF. CstF-64 is expressed in all somatic cells and in pre- and postmeiotic, but not meiotic, germ cells. However, a large variant of CstF-64, called t CstF-64, is abundantly expressed in meiotic and postmeiotic cells in the testis and to a lesser extent in the brain, and promotes the germ cell pattern of polyadenylation. The gene encoding CstF-64 (designated CSTF2) maps to the X chromosome, whereas t CstF-64 is encoded by an autosomal gene. The increase in CstF-64 concentration during B cell activation switches IgM heavy chain mRNA expression from membrane-bound to secreted forms, suggesting that CstF-64 plays a key role in regulating IgM heavy chain expression during B cell differentiation.

## REFERENCES

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2. Takagaki, Y., et al. 1996. The polyadenylation factor CstF-64 regulates alternative processing of IgM heavy chain pre-mRNA during B cell differentiation. *Cell* 87: 941-952.
3. Takagaki, Y. and Manley, J.L. 1998. Levels of polyadenylation factor CstF-64 control IgM heavy chain mRNA accumulation and other events associated with B cell differentiation. *Mol. Cell* 2: 761-771.
4. Kleiman, F.E. and Manley, J.L. 1999. Functional interaction of BRCA1-associated BARD1 with polyadenylation factor CstF-50. *Science* 285: 1576-1579.
5. Wallace, A.M., et al. 1999. Two distinct forms of the 64,000 Mr protein of the cleavage stimulation factor are expressed in mouse male germ cells. *Proc. Natl. Acad. Sci. USA* 96: 6763-6768.
6. 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.
7. Hatton, L.S., et al. 2000. The Drosophila homologue of the 64 kDa subunit of cleavage stimulation factor interacts with the 77 kDa subunit encoded by the suppressor of forked gene. *Nucleic Acids Res.* 28: 520-526.
8. Dass, B., et al. 2001. The gene for a variant form of the polyadenylation protein CstF-64 is on chromosome 19 and is expressed in pachytene spermatocytes in mice. *J. Biol. Chem.* 276: 8044-8050.
9. Chennathukuzhi, V.M., et al. 2001. Elevated levels of the polyadenylation factor CstF-64 enhance formation of the 1kB testis brain RNA-binding protein (TB-RBP) mRNA in male germ cells. *Mol. Reprod. Dev.* 58: 460-469.

## STORAGE

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

## CHROMOSOMAL LOCATION

Genetic locus: CSTF2T (human) mapping to 10q11.23.

## SOURCE

CstF-64T (G-22) is an affinity purified rabbit polyclonal antibody raised against synthetic CstF-64T peptide of human origin.

## PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

## APPLICATIONS

CstF-64T (G-22) is recommended for detection of CstF-64T of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CstF-64T siRNA (h): sc-105248, CstF-64T shRNA Plasmid (h): sc-105248-SH and CstF-64T shRNA (h) Lentiviral Particles: sc-105248-V.

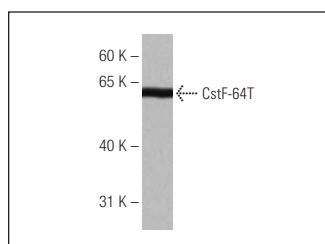
Molecular Weight of CstF-64T: 64 kDa.

Positive Controls: human fetal brain tissue extract.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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).

## DATA



CstF-64T (G-22): sc-133487. Western blot analysis of CstF-64T expression in human fetal brain tissue extract.

## RESEARCH USE

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