SANTA CRUZ BIOTECHNOLOGY, INC.

CstF-64 (E-9): sc-398840

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 τ 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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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.
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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.

CHROMOSOMAL LOCATION

Genetic locus: CSTF2 (human) mapping to Xq22.1, CSTF2T (human) mapping to 10q21.1.

RESEARCH USE

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

SOURCE

CstF-64 (E-9) is a mouse monoclonal antibody raised against amino acids 278-577 mapping at the C-terminus of CstF-64 of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CstF-64 (E-9) is recommended for detection of CstF-64 and CstF-64T of 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).

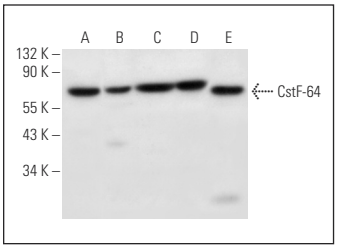
Molecular Weight of CstF-64: 64 kDa.

Positive Controls: HEK293T whole cell lysate: sc-45137, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

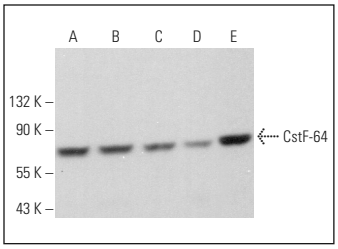
RECOMMENDED SUPPORT REAGENTS

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



CstF-64 (E-9): sc-398840. Western blot analysis of CstF-64 expression in HEK293T (**A**), HeLa (**B**), Jurkat (**C**) and K-562 (**D**) whole cell lysates and BJAB nuclear extract (**E**).



CstF-64 (E-9): sc-398840. Western blot analysis of CstF-64 expression in HeLa (**A**), Jurkat (**B**), K-562 (**C**) and THP-1 (**D**) whole cell lysates and BJAB nuclear extract (**E**). Detection reagent used: m-IgGκ BP-HRP: sc-516102.

STORAGE

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