SANTA CRUZ BIOTECHNOLOGY, INC.

CREB3L4 (C-11): sc-390842

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

cAMP responsive element-binding protein 3-L4 (CREB3L4), also known as AlbZIP, is a transcriptional activator that binds to DNA and is thought to be involved in the unfolded protein response. Expressed primarily in luminal epithelial cells of the prostate, as well as in breast and skeletal tissue, CREB3L4 binds as a dimer to the UPR element (UPRE) of DNA where it activates transcription. Induction of CREB3L4 is regulated by androgens, compounds found in males which, when present in high amounts, signal overexpression of CREB3L4. High levels of stress in the endoplasmic reticulum (ER) trigger the release and translocation of the N-terminal domain of CREB3L4 from the ER membrane to the nucleus, allowing the protein to access the DNA and activate transcription. Increased levels of CREB3L4 are found in prostatic cancers, suggesting a possible role in tumor formation.

REFERENCES

1. Qi, H., et al. 2002. AlbZIP, a novel bZIP gene located on chromosome 1q21.3 that is highly expressed in prostate tumors and of which the expression is up-regulated by androgens in LNCaP human prostate cancer cells. Cancer Res. 62: 721-733.
2. Cao, G., et al. 2002. Molecular cloning and characterization of a novel human cAMP response element-binding (CREB) gene (CREB4). J. Hum. Genet. 47: 373-376.
3. Stirling, J. and O'hare, P. 2005. CREB4, a transmembrane bZip transcription factor and potential new substrate for regulation and cleavage by S1P. Mol. Biol. Cell 17: 413-426.
4. Adham, I.M., et al. 2005. Reduction of spermatogenesis but not fertility in CREB3L4-deficient mice. Mol. Cell. Biol. 25: 7657-7664.
5. El-Alfy, M., et al. 2006. Stage-specific expression of the Atce1/Tisp40a isoform of CREB3L4 in mouse spermatids. J. Androl. 27: 686-694.
6. Ben Aicha, S., et al. 2007. Transcriptional profiling of genes that are regulated by the endoplasmic reticulum-bound transcription factor AlbZIP/CREB3L4 in prostate cells. Physiol. Genomics 31: 295-305.
7. Levesque, M.H., et al. 2007. Evaluation of AlbZIP and Cdc47 as markers for human prostatic diseases. Urology 69: 196-201.

CHROMOSOMAL LOCATION

Genetic locus: CREB3L4 (human) mapping to 1q21.3; Creb3l4 (mouse) mapping to 3 F1.

SOURCE

CREB3L4 (C-11) is a mouse monoclonal antibody raised against amino acids 1-180 mapping at the N-terminus of CREB3L4 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-390842 X, 200 µg/0.1 ml.

APPLICATIONS

CREB3L4 (C-11) is recommended for detection of CREB3L4 of mouse, rat and 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).

Suitable for use as control antibody for CREB3L4 siRNA (h): sc-62158, CREB3L4 siRNA (m): sc-62159, CREB3L4 shRNA Plasmid (h): sc-62158-SH, CREB3L4 shRNA Plasmid (m): sc-62159-SH, CREB3L4 shRNA (h) Lentiviral Particles: sc-62158-V and CREB3L4 shRNA (m) Lentiviral Particles: sc-62159-V.

CREB3L4 (C-11) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

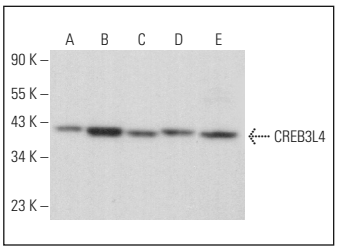
Molecular Weight of CREB3L4: 43 kDa.

Positive Controls: F9 cell lysate: sc-2245, NIH/3T3 whole cell lysate: sc-2210 or A-375 cell lysate: sc-3811.

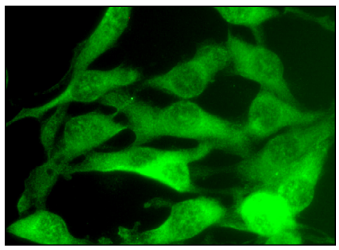
RECOMMENDED SUPPORT REAGENTS

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



CREB3L4 (C-11): sc-390842. Western blot analysis of CREB3L4 expression in F9 (**A**), ZR-75-1 (**B**), NIH/3T3 (**C**), Neuro-2A (**D**) and A-375 (**E**) whole cell lysates.



CREB3L4 (C-11): sc-390842. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing nuclear and cytoplasmic localization.

STORAGE

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

RESEARCH USE

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