CREB3L4 (Y-18): sc-54801



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

- Qi, H., Fillion, C., Labrie, Y., Grenier, J., Fournier, A., Berger, L., El-Alfy, M. and Labrie, C. 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.
- Cao, G., Ni, X., Jiang, M., Ma, Y., Cheng, H., Guo, L., Ji, C., Gu, S., Xie, Y. and Mao, Y. 2002. Molecular cloning and characterization of a novel human cAMP response element-binding (CREB) gene (CREB4). J. Hum. Genet. 47: 373-376.
- 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.
- Adham, I.M., Eck, T.J., Mierau, K., Müller, N., Sallam, M.A., Paprotta, I., Schubert, S., Hoyer-Fender, S. and Engel, W. 2005. Reduction of spermatogenesis but not fertility in CREB3L4-deficient mice. Mol. Cell. Biol. 25: 7657-7664.
- 5. El-Alfy, M., Azzi, L., Lessard, J., Lavergne, E., Pelletier, M. and Labrie, C. 2006. Stage-specific expression of the Atce1/Tisp40 α isoform of CREB3L4 in mouse spermatids. J. Androl. 27: 686-694.
- Ben Aicha, S., Lessard, J., Pelletier, M., Fournier, A., Calvo, E. and Labrie, C. 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., El-Alfy, M., Berger, L., Labrie, F. and Labrie, C. 2007. Evaluation of AlbZIP and Cdc47 as markers for human prostatic diseases. Urology 69: 196-201.
- 8. Labrie, C., Lessard, J., Aicha, S.B., Savard, M.P., Pelletier, M., Fournier, A., Lavergne, E. and Calvo, E. 2008. Androgen-regulated transcription factor AlbZIP in prostate cancer. J. Steroid Biochem. Mol. Biol. 108: 237-244.

CHROMOSOMAL LOCATION

Genetic locus: Creb3I4 (mouse) mapping to 3 F1.

SOURCE

CREB3L4 (Y-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CREB3L4 of mouse origin.

PRODUCT

Each vial contains 200 μ g lgG 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-54801 X, 200 μ g/0.1 ml.

Blocking peptide available for competition studies, sc-54801 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CREB3L4 (Y-18) is recommended for detection of CREB3L4 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (m): sc-62159, CREB3L4 shRNA Plasmid (m): sc-62159-SH and CREB3L4 shRNA (m) Lentiviral Particles: sc-62159-V.

CREB3L4 (Y-18) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of CREB3L4: 43 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.



Try CREB3L4 (D-8): sc-514052 or CREB3L4 (C-11): sc-390842, our highly recommended monoclonal alternatives to CREB3L4 (Y-18).