

CREB3L4 (h): 293T Lysate: sc-115476

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., 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 upregulated by androgens in LNCaP human prostate cancer cells. *Cancer Res.* 62: 721-733.
2. 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.
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., 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., Laverne, 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.
6. 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.

CHROMOSOMAL LOCATION

Genetic locus: CREB3L4 (human) mapping to 1q21.3.

PRODUCT

CREB3L4 (h): 293T Lysate represents a lysate of human CREB3L4 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

CREB3L4 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive CREB3L4 antibodies. Recommended use: 10-20 μ l per lane.

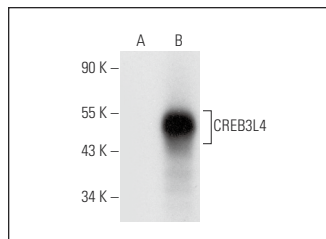
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

CREB3L4 (D-8): sc-514052 is recommended as a positive control antibody for Western Blot analysis of enhanced human CREB3L4 expression in CREB3L4 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

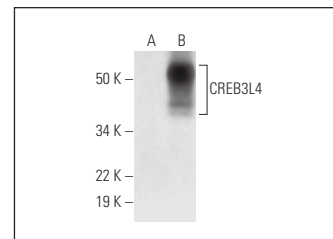
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



CREB3L4 (D-8): sc-514052. Western blot analysis of CREB3L4 expression in non-transfected: sc-117752 (A) and human CREB3L4 transfected: sc-115476 (B) 293T whole cell lysates.



CREB3L4 (D-6): sc-390850. Western blot analysis of CREB3L4 expression in non-transfected: sc-117752 (A) and human CREB3L4 transfected: sc-115476 (B) 293T whole cell lysates.

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.

RESEARCH USE

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

PROTOCOLS

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