SANTA CRUZ BIOTECHNOLOGY, INC.

CREB-1 (C-21): sc-186

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Eukaryotic gene transcription is regulated by sequence-specific transcription factors that bind modular *cis* acting promoter and enhancer elements. The ATF/CREB transcription factor family binds the palindromic cAMP response element (CRE) octanucleotide TGACGTCA. The ATF/CREB family includes CREB-1, CREB-2 (also designated ATF-4), ATF-1, ATF-2 and ATF-3. This family of proteins contains highly divergent N-terminal domains, but share a C-terminal leucine zipper for dimerization and DNA binding. Although CREB can bind to DNA in an unphosphorylated state, it cannot activate transcription. Phosphorylation of CREB on Ser 133 by protein kinase A facilitates its interaction with the CREB-binding protein (CBP) and activates the basal transcription complex. CREB functions in neoglucogenesis through interactions with the nuclear coactivator PGC-1. CREB may play a role in the pathogenesis of type II diabetes and dilated cardiomyopathy.

SOURCE

CREB-1 (C-21) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of CREB-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG 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-186 X, 100 µg/0.1 ml.

Blocking peptide available for competition studies, sc-186 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

CREB-1 (C-21) is recommended for detection of CREB-1A, CREB-1B, CREM and ATF-1 of mouse, rat, human and *Drosophila melanogaster* origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

CREB-1 (C-21) is also recommended for detection of CREB-1A, CREB-1B, CREM and ATF-1 in additional species, including equine, canine, bovine, porcine and avian.

CREB-1 (C-21) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of CREB-1: 43 kDa.

Positive Controls: CREB-1 (h): 293 Lysate: sc-111160, A-431 whole cell lysate: sc-2201 or A-673 cell lysate: sc-2414.

RESEARCH USE

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

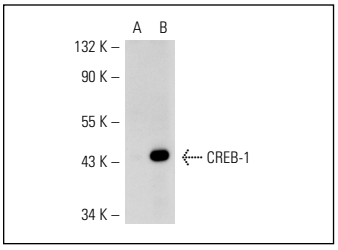
PROTOCOLS

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

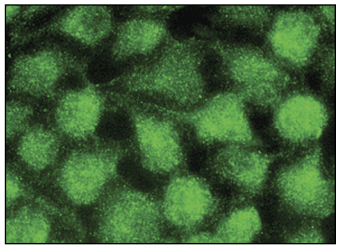
STORAGE

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

DATA



CREB-1 (C-21): sc-186. Western blot analysis of CREB-1 expression in non-transfected: sc-110760 (**A**) and human CREB-1 transfected: sc-111160 (**B**) 293 whole cell lysates.



CREB-1 (C-21): sc-186. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Levy, B.D., et al. 2001. Lipid mediator class switching during acute inflammation: signals in resolution. Nat. Immunol. 2: 612-619.
2. Shah, M., et al. 2010. A role for ATF-2 in regulating MITF and melanoma development. PLoS Genet. 6: e1001258.
3. Sacilotto, N., et al. 2011. Epigenetic transcriptional regulation of the growth arrest-specific gene 1 (Gas1) in hepatic cell proliferation at mononucleosomal resolution. PLoS ONE 6: e23318.
4. Um, H.S., et al. 2011. Treadmill exercise represses neuronal cell death in an aged transgenic mouse model of Alzheimer's disease. Neurosci. Res. 69: 161-173.
5. Pacelli, C., et al. 2011. Mitochondrial defect and PGC-1α dysfunction in parkin-associated familial Parkinson's disease. Biochim. Biophys. Acta 1812: 1041-1053.
6. Wicks, K. and Knight, J.C. 2011. Transcriptional repression and DNA loop-ing associated with a novel regulatory element in the final exon of the lymphotoxin-β gene. Genes Immun. 12: 126-135.
7. Xue, H., et al. 2011. A CRE that binds CREB and contributes to PKA-dependent regulation of the proximal promoter of human RAB25 gene. Int. J. Biochem. Cell Biol. 43: 348-357.
8. Carriba, P., et al. 2012. ATP and noradrenaline activate CREB in astrocytes via noncanonical Ca^{2+} and cyclic AMP independent pathways. Glia 60: 1330-1344.

MONOS Satisfaction Guaranteed

Try **CREB-1 (D-12): sc-377154** or **CREB-1 (D-4): sc-374227**, our highly recommended monoclonal alternatives to CREB-1 (C-21). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **CREB-1 (D-12): sc-377154**.