SANTA CRUZ BIOTECHNOLOGY, INC.

CRE-BPa (G-16): sc-46078

BACKGROUND

The ATF/CREB family consists of a series of transcription factors that function by binding to the cAMP responsive element (CRE) palindromic octanucleotide, TGACCTCA. The best characterized members of this gene family include CREB-1, CREB-2 (also designated ATF-4), CRE-BPa, LZIP (also designated CREB3 and Luman), CREM-2, ATF-1, ATF-2, ATF-3, ATF-5, ATF-6 and ATF-7. These transcription factors share terminal leucine zipper dimerization and basic DNA binding domains and are highly variable in their N-termini. Although each of the ATF/CREB proteins bind CREs in their homodimeric form, they can also bind as heterodimers, both within the ATF/CREB family and with members of the AP-1 transcription factor family. Protein kinase A-mediated CREB phosphorylation induces association with a 265 kDa nuclear protein designated CBP (CREB-binding protein), which may represent a CREB coactivator. CRE-BPa is a nuclear protein that binds DNA as a homodimer but can also form a heterodimer with ATF-2 or Jun.

REFERENCES

1. Zu, Y.L., et al. 1993. Regulation of trans-activating capacity of CRE-BPa by phorbol ester tumor promoter TPA. Oncogene 8: 2749-2758.
2. Nomura, N., et al. 1993. Isolation and characterization of a novel member of the gene family encoding the cAMP response element-binding protein CRE-BP1. J. Biol. Chem. 268: 4259-4266.
3. Iourgenko, V., et al. 2003. Identification of a family of cAMP response element-binding protein coactivators by genome-scale functional analysis in mammalian cells. Proc. Natl. Acad. Sci. USA 100: 12147-12152.
4. Shahabi, N.A., et al. 2005. Delta opioid receptors stimulate Akt-dependent phosphorylation of c-Jun in T cells. J. Pharmacol. Exp. Ther. 316: 933-939.
5. Sarraj, J.A., et al. 2005. Regulation of GTP cyclohydrolase gene transcription by basic region leucine zipper transcription factors. J. Cell. Biochem. 96: 1003-1020.
6. Thiel, G., et al. 2005. Role of basic region leucine zipper transcription factors cyclic AMP response element binding protein (CREB), CREB-2, activating transcription factor 2 and CAAT/enhancer binding protein α in cyclic AMP response J. Neurochem. 92: 321-336.
7. SWISS-PROT/TrEMBL (Q02930). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

CHROMOSOMAL LOCATION

Genetic locus: CREB5 (human) mapping to 7p15.1; Creb5 (mouse) mapping to 6 B3.

SOURCE

CRE-BPa (G-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CRE-BPa of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 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-46078 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-46078 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CRE-BPa (G-16) is recommended for detection of CRE-BPa of human origin by Western Blotting (starting dilution 1:200, 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 CRE-BPa siRNA (h): sc-45639, CRE-BPa shRNA Plasmid (h): sc-45639-SH and CRE-BPa shRNA (h) Lentiviral Particles: sc-45639-V.

CRE-BPa (G-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Positive Controls: MCF7 whole cell lysate: sc-2206.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

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.