

CRE-BPa (G420): sc-130435

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 CREB-3 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 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. δ 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.

CHROMOSOMAL LOCATION

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

SOURCE

CRE-BPa (G420) is a mouse monoclonal antibody raised against recombinant CRE-BPa of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

CRE-BPa (G420) is recommended for detection of CRE-BPa of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 siRNA (m): sc-45640, CRE-BPa shRNA Plasmid (h): sc-45639-SH, CRE-BPa shRNA Plasmid (m): sc-45640-SH, CRE-BPa shRNA (h) Lentiviral Particles: sc-45639-V and CRE-BPa shRNA (m) Lentiviral Particles: sc-45640-V.

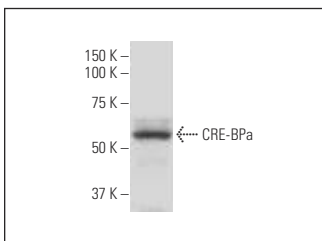
Molecular Weight of CRE-BPa: 57 kDa.

Positive Controls: HeLa nuclear extract: sc-2120.

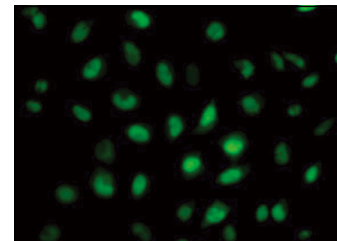
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



CRE-BPa (G420): sc-130435. Western blot analysis of CRE-BPa expression in HeLa nuclear extract.



CRE-BPa (G420): sc-130435. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Wang, X., et al. 2023. A trio of tumor suppressor miRNA downregulates CREB5 dependent transcription to modulate neoadjuvant hormonal therapy sensitivity. *Neoplasia* 36: 100875.
2. Dai, W., et al. 2023. The ATF2/miR-3913-5p/CREB5 axis is involved in the cell proliferation and metastasis of colorectal cancer. *Commun. Biol.* 6: 1026.

STORAGE

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