

CREM (A-2): sc-377496

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 CREM, CREB-1, CREB-2 (also designated ATF-4), ATF-1, ATF-2 and ATF-3. This family of proteins contain highly divergent N-terminal domains, but share a C-terminal leucine zipper for dimerization and DNA binding. The transcription factor cAMP-responsive element modulator (CREM) is known to play a vital role for male fertility as it has been demonstrated that male mice lacking a functional CREM gene are infertile. In testis, CREM transcriptional activity is controlled through interaction with a tissue-specific partner, activator of CREM in the testis (ACT), which confers a powerful, phosphorylation-independent activation capacity. The function of ACT was found to be regulated by the testis-specific kinesin KIF17b also reactive with canine and Syrian hamster.

REFERENCES

1. Montminy, M.R., et al. 1986. Identification of a cyclic-AMP-responsive element within the rat somatostatin gene. *Proc. Natl. Acad. Sci. USA* 83: 6682-6686.
2. Lin, Y.S., et al. 1988. Interaction of a common cellular transcription factor, ATF, with regulatory elements in both Ela- and cyclic AMP-inducible promoters. *Proc. Natl. Acad. Sci. USA* 85: 3396-3400.
3. Hai, T.W., et al. 1989. Transcription factor ATF cDNA clones: an extensive family of leucine zipper proteins able to selectively form DNA-binding heterodimers. *Genes Dev.* 3: 2083-2090.
4. Monaco, L., et al. 2004. Specialized rules of gene transcription in male germ cells: the CREM paradigm. *Int. J. Androl.* 27: 322-327.

CHROMOSOMAL LOCATION

Genetic locus: *Crem* (mouse) mapping to 18 A1.

SOURCE

CREM (A-2) is a mouse monoclonal antibody raised against the full length polyhistidine tagged CREM fusion protein of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain 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-377496 X, 200 µg/0.1 ml.

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.

APPLICATIONS

CREM (A-2) is recommended for detection of CREM of mouse and rat origin by Western Blotting (starting dilution 1:100, 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 CREM siRNA (m): sc-37701, CREM shRNA Plasmid (m): sc-37701-SH and CREM shRNA (m) Lentiviral Particles: sc-37701-V.

CREM (A-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

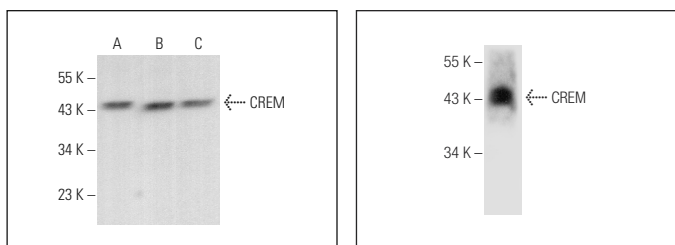
Molecular Weight of CREM: 39 kDa.

Positive Controls: KNRK nuclear extract: sc-2141, c4 whole cell lysate: sc-364186 or PC-12 cell lysate: sc-2250.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



CREM (A-2): sc-377496. Western blot analysis of CREM expression in c4 (A), PC-12 (B) and 3611-RF (C) whole cell lysates.

CREM (A-2): sc-377496. Western blot analysis of CREM expression in KNRK nuclear extract.

SELECT PRODUCT CITATIONS

1. López-Márquez, A., et al. 2019. Regulation of FOXE1 by TSH and TGFβ depends on the interplay between thyroid-specific, CREB and Smad transcription factors. *Thyroid* 29: 714-725.



See **CREM (C-2): sc-390426** for CREM antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.