

# CREM (C-2): sc-390426

## 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 TGACGTC. 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.

## CHROMOSOMAL LOCATION

Genetic locus: CREM (human) mapping to 10p11.21; Crem (mouse) mapping to 18 A1.

## SOURCE

CREM (C-2) is a mouse monoclonal antibody raised against amino acids 1-153 mapping at the N-terminus of CREM of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CREM (C-2) is available conjugated to agarose (sc-390426 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390426 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390426 PE), fluorescein (sc-390426 FITC), Alexa Fluor® 488 (sc-390426 AF488), Alexa Fluor® 546 (sc-390426 AF546), Alexa Fluor® 594 (sc-390426 AF594) or Alexa Fluor® 647 (sc-390426 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390426 AF680) or Alexa Fluor® 790 (sc-390426 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

CREM (C-2) is recommended for detection of CREM of mouse, rat and human 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), immunohistochemistry (including paraffin-embedded sections) (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 (h): sc-37700, CREM siRNA (m): sc-37701, CREM shRNA Plasmid (h): sc-37700-SH, CREM shRNA Plasmid (m): sc-37701-SH, CREM shRNA (h) Lentiviral Particles: sc-37700-V and CREM shRNA (m) Lentiviral Particles: sc-37701-V.

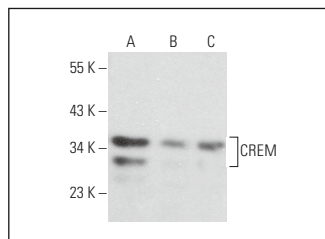
Molecular Weight of CREM: 39 kDa.

Positive Controls: J774.A1 cell lysate: sc-3802 or PC-12 cell lysate: sc-2250.

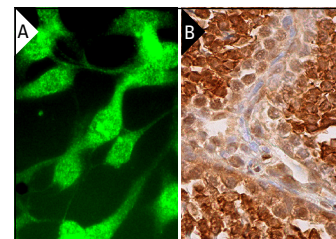
## STORAGE

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

## DATA



CREM (C-2): sc-390426. Western blot analysis of CREM expression in J774.A1 (A), SUP-T1 (B) and PC-12 (C) whole cell lysates.



CREM (C-2): sc-390426. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing nuclear and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat testis tissue showing nuclear and cytoplasmic staining of cells in seminiferous ducts and Leydig cells (B).

## SELECT PRODUCT CITATIONS

1. Kloubert, V., et al. 2021. Zinc deficiency leads to reduced interleukin-2 production by active gene silencing due to enhanced CREM $\alpha$  expression in T cells. *Clin. Nutr.* 40: 3263-3278.
2. Baar, B.R., et al. 2022. Short-term zinc supplementation of zinc-deficient seniors counteracts CREM $\alpha$ -mediated IL-2 suppression. *Immun. Ageing* 19: 40.
3. Chen, Y., et al. 2022. Single-cell transcriptomic profiling in inherited retinal degeneration reveals distinct metabolic pathways in rod and cone photoreceptors. *Int. J. Mol. Sci.* 23: 12170.
4. Liu, W., et al. 2023. Proton-pump inhibitors suppress T cell response by shifting intracellular zinc distribution. *Int. J. Mol. Sci.* 24: 1191.
5. Shimada, Y., et al. 2023. Identification of the promoter region regulating the transcription of the REV7 gene. *Biochem. Biophys. Res. Commun.* 662: 8-17.
6. Zhang, L., et al. 2023. Interleukin 6 (IL-6) regulates GABA<sub>A</sub> receptors in the dorsomedial hypothalamus nucleus (DMH) through activation of the JAK/STAT pathway to affect heart rate variability in stressed rats. *Int. J. Mol. Sci.* 24: 12985.
7. Gao, F., et al. 2024. Brain regulates weight bearing bone through PGE2 skeletal interoception: implication of ankle osteoarthritis and pain. *Bone Res.* 12: 16.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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