

CREB Control Cell Extracts

✓ 10 Western mini-blot

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rev. 11/20/07

This product is for *in vitro* research use only and is not intended for use in humans or animals.

Background: CREB is a bZIP transcription factor that activates target genes through cAMP response elements. CREB is able to mediate signals from numerous physiological stimuli, resulting in regulation of a broad array of cellular responses. While CREB is expressed in numerous tissues, it plays a large regulatory role in the nervous system. CREB is believed to play a key role in promoting neuronal survival, precursor proliferation, neurite outgrowth and neuronal differentiation in certain neuronal populations (1-3). Additionally, CREB signaling is involved in learning and memory in several organisms (4-6). CREB is able to selectively activate numerous downstream genes through interactions with different dimerization partners. CREB is activated by phosphorylation at Ser133 by various signaling pathways including Erk, Ca²⁺ and stress signaling. Some of the kinases involved in phosphorylating CREB at Ser133 are p90RSK, MSK, CaMKIV and MAPKAPK-2 (7-9).

Description: Nonphosphorylated CREB Cell Extracts: Total cell extracts from SK-N-MC cells prepared without treatment serve as a negative control. Supplied in SDS Sample Buffer.

Phosphorylated CREB Cell Extracts: Total cell extracts from SK-N-MC cells prepared with IBMX and forskolin treatment serve as a positive control. Supplied in SDS Sample Buffer.

Applications: As controls, we recommend using 10 µl of phosphorylated and nonphosphorylated CREB control extracts. Boil sample before use.

Background References:

- (1) Lonze, B.E. et al. (2002) *Neuron* 34, 371–385.
- (2) Lee, M.M. et al. (1999) *J. Neurosci. Res.* 55, 702–712.
- (3) Redmond, L. et al. (2002) *Neuron* 34, 999–1010.
- (4) Dash, P.K. et al. (1990) *Nature* 345, 718–721.
- (5) Yin, J.C. et al. (1994) *Cell* 79, 49–58.
- (6) Guzowski, J.F. and McLaugh, J.L. (1997) *Proc. Nat. Acad. Sci. USA* 94, 2693–2698.
- (7) Xing, J. et al. (1998) *Mol. Cell. Biol.* 18, 1946–1955.
- (8) Ribar, T.J. et al. (2000) *J. Neurosci.* 20, RC107.
- (9) Tan, Y. et al. (1996) *EMBO J.* 15, 4629–4642.

Storage: Supplied in SDS Sample Buffer: 62.5 mM Tris-HCL (pH 6.8 at 25°C), 2% w/v SDS, 10% glycerol, 50 mM DTT, 0.01% w/v bromophenol blue or phenol red. Store at -20°C.

Companion Products:

- PhosphoPlus® CREB (Ser133) Antibody Kit #9190
- Phospho-CREB (Ser133) Antibody #9191
- Phospho-CREB (Ser133) (1B6) Mouse mAb #9196
- CREB (48H2) Rabbit mAb #9197
- Phospho-CREB (Ser133) (87G3) Rabbit mAb #9198
- Phospho-CREB (Ser133) (87G3) Rabbit mAb (Alexa Fluor® 488 Conjugate) #9187
- CREB (86B10) Mouse mAb #9104
- Anti-rabbit IgG, HRP-linked Antibody #7074
- Prestained Protein Marker, Broad Range (Premixed Format) #7720
- Biotinylated Protein Ladder #7727
- 20X LumiGLO® Reagent and 20X Peroxide #7003

