

Anti-phospho-CREB1 (Ser133)

Rabbit Polyclonal Antibody

Catalog # C49-565R

Lot # J1274-12

Cited Applications

WB, IHC

Suggested Dilutions:

WB 1:1,000, IHC 1:100

Ideal working dilutions for each application should be empirically determined by the investigator.

Specificity

Recognizes the CREB1 protein phosphorylated at serine 133

Cross Reactivity

Human, Mouse, Rat, Bovine, Canine, Chicken, non-Human Primate, Sheep, Xenopus and Zebrafish

Host/Isotype/Clone#

Rabbit, IgG

Immunogen

Synthetic phospho-peptide corresponding to amino acid residues surrounding Ser383 conjugated to KLH

Formulation

100 µl in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg per ml BSA and 50% glycerol.

Scientific Background

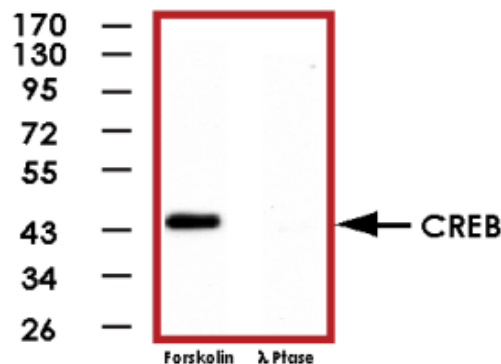
Members of the cAMP responsive element binding protein (CREB) family are critical mediators of gene expression in response to extracellular signals. Thus, they are essential regulators of adaptive behavior and long-term memory formation (1). A variety of protein kinases including protein kinase A (PKA), mitogen-activated protein kinases (MAPKs), and Ca²⁺/calmodulin dependent protein kinases (CAMKs) phosphorylate CREB1 at Ser133, which is required for CREB-mediated transcription (2,3). Activation of CREB1 has been implicated in the survival of mammalian cells. Mice that do not express CREB in the central nervous system display extensive apoptosis of postmitotic neurons during development (4). CREB can bind promoters containing CRE and activator protein 1 (AP-1) sites either as homo- and heterodimers to control gene expression.

References

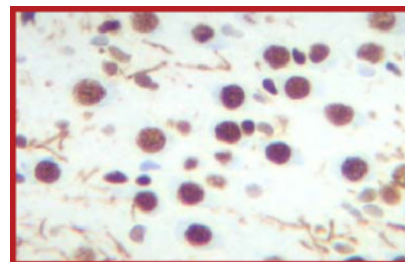
1. Valverde, O. et al: Modulation of anxiety-like behavior and morphine dependence in CREB-deficient mice. *Neuropsychopharmacology*. 2004 Jun;29(6):1122-33.
2. Johannessen, M. et al: What turns CREB on? *Cellular Signalling* 2004 16:1211-1227.
3. Kornhauser, J M. et al: CREB transcriptional activity in neurons is regulated by multiple, calcium-specific phosphorylation events. *Neuron* 2002 34:221-233.
4. Mantamadiotis, T. et al: Disruption of CREB function in brain leads to neurodegeneration. *Nat genet.* 2002 May; 31(1): 47-54.

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Sample Data



Western blot of forskolin stimulated rat hippocampal lysate showing specific immunolabeling of the ~45kDa CREB1 phosphorylated at Ser133 (Left lane). Phosphospecificity is shown in the right lane where the signal is completely eliminated by treatment with lambda phosphatase (λ-Ptase, 1200 units for 30 min).



Immunostaining of cultured rat hippocampal slices showing nuclear labeling of CREB phosphorylated at Ser133 in brown.

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Specific Lot Number

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Purification

Affinity chromatography

Stability

1yr at -20°C from date of shipment

Storage & Shipping

Store product at -20°C. For optimal storage, aliquot antibody into smaller quantities after centrifugation and store at recommended temperature. For optimal performance, avoid repeated handling and multiple freeze/thaw cycles. Product shipped on ice packs.