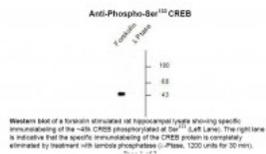




## CREB (phospho Ser133) Antibody

CATALOG NUMBER: 50-221



Western blot of a forskolin stimulated rat hippocampal lysate showing specific immunolabeling of the ~45k CREB phosphorylated at Ser133 (Left Lane). The right lane is indicative that the specific immunolabeling of the CREB protein is completely eliminated by treatment with lambda phosphatase (lambda-Ptase, 1200 units for 30 min).

### Specifications

|                                    |  |
|------------------------------------|--|
| <b>SPECIES REACTIVITY:</b>         | Bovine, Dog, Human, Mouse, Rat, Sheep, Zebrafish   |
| <b>TESTED APPLICATIONS:</b>        | WB   |
| <b>APPLICATIONS:</b>               | The antibody has been directly tested for reactivity in Western blots with rat tissue. It is anticipated that the antibody will also react with bovine, canine, chicken, human, mouse, non-human primate, rat, sheep, Xenopus and zebra fish based on the fact that these species have 100% homology with the amino acid sequence used as antigen. |
| <b>USER NOTE:</b>                  | Optimal dilutions for each application to be determined by the researcher.   |
| <b>PREDICTED MOLECULAR WEIGHT:</b> | 45   |
| <b>IMMUNOGEN:</b>                  | Phosphopeptide corresponding to amino acid residues surrounding the phospho-Ser133 of rat CREB.  |
| <b>HOST SPECIES:</b>               | Rabbit   |

### Properties

|                            |  |
|----------------------------|--|
| <b>PURIFICATION:</b>       | Affinity Purified  |
| <b>PHYSICAL STATE:</b>     | Liquid   |
| <b>BUFFER:</b>             | 100 uL in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 ug per mL BSA and 50% glycerol. |
| <b>STORAGE CONDITIONS:</b> | CREB antibody can be stored at -20°C and is stable at -20°C for at least 1 year. |
| <b>CLONALITY:</b>          | Polyclonal   |
| <b>CONJUGATE:</b>          | Unconjugated   |

### Additional Info

|                         |                      |
|-------------------------|----------------------|
| <b>ALTERNATE NAMES:</b> | Creb, Creb-1, CREB-1 |
| <b>ACCESSION NO.:</b>   | P15337               |
| <b>PROTEIN GI NO.:</b>  | 117435               |
| <b>OFFICIAL SYMBOL:</b> | Creb1                |
| <b>GENE ID:</b>         | 81646                |

## Background

**BACKGROUND:** It is well known that the control of gene expression involves activation of protein kinase cascades that regulate transcription factors within the nucleus (Karin and Hunter, 1995). The cyclic AMP response element binding protein (CREB) is one of the best characterized stimulus-induced transcription factors (Montminy, 1997). This transcription factor is a component of intracellular signaling events that regulate a wide range of biological functions, from spermatogenesis to circadian rhythms and memory (Shaywitz and Greenberg, 1999; Silva et al., 1998). A variety of protein kinases including protein kinase A (PKA), mitogenactivated protein kinases (MAPKs), and Ca<sup>2+</sup>/calmodulin-dependent protein kinases (CaMKs) phosphorylate CREB at serine 133 (Ser133), and phosphorylation of Ser133 are required for CREB-mediated transcription (Johannessen et al., 2004; Kornhauser et al., 2002).

**REFERENCES:**

- 1) Johannessen M, Delghandi MP, Moens U (2004) What turns CREB on? Cellular Signalling 16:1211-1227.
- 2) Karin M, Hunter T (1995) Transcriptional control by protein phosphorylation: Signal transmission from the cell surface to the nucleus. Curr Biol 5:747-757.
- 3) Kornhauser JM, Cowan CW, Shaywitz AJ, Dolmetsch RE, Griffith EC, Hu LS, Haddad C, Xia ZG, Greenberg ME (2002) CREB transcriptional activity in neurons is regulated by multiple, calcium-specific phosphorylation events. Neuron 34:221-233.

**FOR RESEARCH USE ONLY**

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