10320 Camino Santa Fe, Suite G
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# Phospho-Ser133 CREB Antibody

**Affinity purified rabbit polyclonal antibody**
**Catalog # AN1072**

## Specification

### Phospho-Ser133 CREB Antibody - Product Information

| | |
|---|---|
| Application | **WB, IHC** |
| Primary Accession | P15337 |
| Reactivity | **Rat** |
| Predicted | **Bovine, Chicken, Human, Mouse, Monkey, Rat, Xenopus, Zebrafish** |
| Host | **Rabbit** |
| Clonality | **polyclonal** |
| Calculated MW | **45 KDa** |

### Phospho-Ser133 CREB Antibody - Additional Information

| | |
|---|---|
| Gene ID | **81646** |
| Gene Name | **CREB1** |

**Other Names**
Cyclic AMP-responsive element-binding protein 1, CREB-1, cAMP-responsive element-binding protein 1, Creb1, Creb-1

**Target/Specificity**
Synthetic phospho-peptide corresponding to amino acid residues surrounding Ser133 conjugated to KLH.

**Dilution**
WB~~ 1:1000
IHC~~ 1:100

**Format**
Prepared from rabbit serum by affinity purification via sequential chromatography on phospho- and dephosphopeptide affinity columns.

**Antibody Specificity**
Specific for the ~45k CREB protein phosphorylated at Ser133. Immunolabeling is blocked by λ-phosphatase treatment.

**Storage**
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**
Phospho-Ser133 CREB Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**Shipping**
Blue Ice

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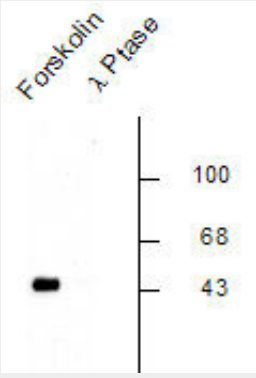
**Phospho-Ser133 CREB Antibody - Protocols**

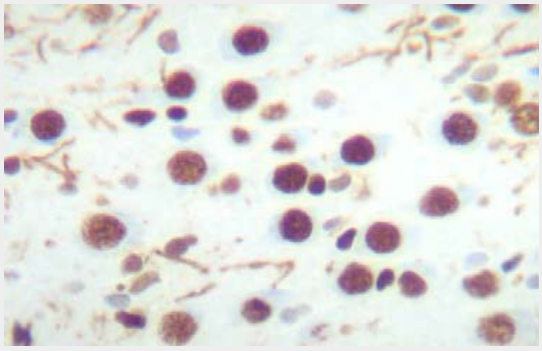
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

**Phospho-Ser133 CREB Antibody - Images**




Western blot of forskolin stimulated rat hippocampal lysate showing specific immunolabeling of the ~45k CREB 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.

**Phospho-Ser133 CREB Antibody - 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), mitogen-activated protein kinases (MAPKs), and Ca2+/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).

**Phospho-Ser133 CREB Antibody - References**

Johannessen M, Delghandi MP, Moens U (2004) What turns CREB on? Cellular Signalling 16:1211-1227.
Karin M, Hunter T (1995) Transcriptional control by protein phosphorylation: Signal transmission from the cell surface to the nucleus. Curr Biol 5:747-757.
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.
Montminy M (1997) Transcriptional regulation by cyclic AMP. Annu Rev Biochem 66:807-822.
Shaywitz AJ, Greenberg ME (1999) CREB: A stimulus-induced transcription factor activated by a diverse array of extracellular signals. Annu Rev Biochem 68:821-861.
Silva AJ, Kogan JH, Frankland PW, Kida S (1998) CREB and memory. Annu Rev Neurosci 21:127-148.