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Product Datasheet

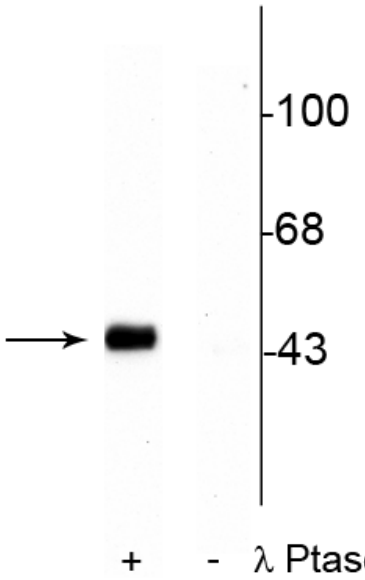
Anti-CREB (Ser133)

Pooled Serum

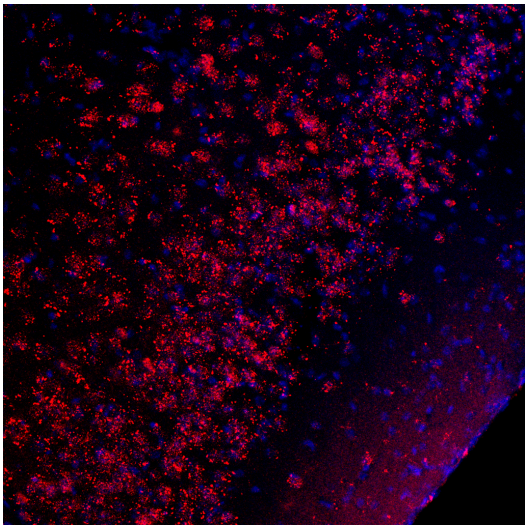
Overview

Catalog #	p1010-133
Host Species	Rabbit Polyclonal
Format	Antigen Affinity Purified from Pooled Serum
Applications	WB 1:1000 IHC 1:100-1:1000
Species Tested	Mouse, Rat
Expected Reactivity	Bovine, Canine, Chicken, Human, Non-Human Primate, Sheep, *Xenopus*, Zebrafish
Immunogen	Synthetic phospho-peptide corresponding to amino acid residues surrounding Ser133 of rat CREB, conjugated to keyhole limpet hemocyanin (KLH).
Molecular Weight	45 kDa
Cite this Antibody	PhosphoSolutions Cat# p1010-133, RRID:AB_2492066

Images



Western blot of rat hippocampal lysate stimulated with forskolin showing specific immunolabeling of the ~45 kDa CREB phosphorylated at Ser^{133} in the first lane (-). Phosphospecificity is shown in the second lane (+) where immunolabeling is completely eliminated by lysate treatment with *lambda* phosphatase (λ-Ptase, 800 units/1 mg protein for 30 min).



Immunolabeling of a section of mouse piriform cortex labeled with Anti-Phospho-Ser^{133} CREB (cat# p1010-133, red, 1:1000). Cell nuclei are visualized with DAPI DNA stain (blue).

Details

Target Description	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 (Ser-133), and phosphorylation of Ser-133 are required for CREB-mediated transcription (Johannessen et al., 2004; Kornhauser et al., 2002).
Specificity	Specific for endogenous levels of the ~45 kDa CREB protein phosphorylated at Ser133. Immunolabeling is completely eliminated by treatment with λ-phosphatase.
Production/Purification	Prepared from pooled rabbit serum by affinity purification via sequential chromatography on phospho and non-phosphopeptide affinity columns.
Quality Control	Western blots performed on each lot.
Buffer	10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg per ml BSA and 50% glycerol.
Storage	Storage at -20°C is recommended, as aliquots may be taken without freeze/thawing due to presence of 50% glycerol.
Stability	After date of receipt, stable for at least 1 year at -20°C.

Significant Citations

Abdurakhmanova, S., Semenova, S., Piepponen, T.P. and Panula, P., Abnormal behavior, striatal dopamine turnover and opioid peptide gene expression in histamine-deficient mice. *Genes, Brain and Behavior*, p.e12595.

Yau, S.Y., Bettio, L., Vetrici, M., Truesdell, A., Chiu, C., Chiu, J., Truesdell, E. and Christie, B.R., 2018. Chronic minocycline treatment improves hippocampal neuronal structure, NMDA receptor function, and memory processing in Fmr1 knockout mice. *Neurobiology of disease*, *113*, pp.11-22.

Du, J., Price, M.P., Taugher, R.J., Grigsby, D., Ash, J.J., Stark, A.C., Saad, M.Z.H., Singh, K., Mandal, J., Wemmie, J.A. and Welsh, M.J., 2017. Transient acidosis while retrieving a fear-related memory enhances its lability. *eLife*, *6*, p.e22564.

Bu, W., Ren, H., Deng, Y., Del Mar, N., Guley, N.M., Moore, B.M., Honig, M.G. and Reiner, A., 2016. Mild traumatic brain injury produces neuron loss that can be rescued by modulating microglial activation using a CB2 receptor inverse agonist. *Frontiers in neuroscience*, 10, p.449.

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