

#9198 Store at -20C

Phospho-CREB (Ser133) (87G3) Rabbit mAb



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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: WB, W-S, IHC-P, IF-F, IF-IC, FC-FP, ChIP, ChIP-seq, C&R	Reactivity: H M R	Sensitivity: Endogenous	MW (kDa): 43	Source/Isotype: Rabbit IgG	UniProt ID: #P16220	Entrez-Gene Id: 1385
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Product Usage Information

For optimal ChIP and ChIP-seq results, use 10 µl of antibody and 10 µg of chromatin (approximately 4 x 10⁶ cells) per IP. This antibody has been validated using SimpleChIP[®] Enzymatic Chromatin IP Kits.

The CUT&RUN dilution was determined using CUT&RUN Assay Kit #86652.

Application	Dilution
Western Blotting	1:1000
Simple Western™	1:10 - 1:50
Immunohistochemistry (Paraffin)	1:400 - 1:1600
Immunofluorescence (Frozen)	1:400 - 1:1600
Immunofluorescence (Immunocytochemistry)	1:400 - 1:1600
Flow Cytometry (Fixed/Permeabilized)	1:400 - 1:1600
Chromatin IP	1:50
Chromatin IP-seq	1:50
CUT&RUN	1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #39561.

Specificity / Sensitivity

Phospho-CREB (Ser133) (87G3) Rabbit mAb detects endogenous levels of CREB only when phosphorylated at serine 133. The antibody also detects the phosphorylated form of the CREB-related protein, ATF-1.

Species predicted to react based on 100% sequence homology:

Zebrafish

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser133 of human CREB.

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).

Background References

1. Lonze, B.E. et al. (2002) *Neuron* 34, 371-85.
2. Lee, M.M. et al. (1999) *J Neurosci Res* 55, 702-12.
3. Redmond, L. et al. (2002) *Neuron* 34, 999-1010.
4. Dash, P.K. et al. (1990) *Nature* 345, 718-21.

5. Yin, J.C. et al. (1994) *Cell* 79, 49-58.
6. Guzowski, J.F. and McGaugh, J.L. (1997) *Proc Natl Acad Sci USA* 94, 2693-8.
7. Xing, J. et al. (1998) *Mol Cell Biol* 18, 1946-55.
8. Ribar, T.J. et al. (2000) *J Neurosci* 20, RC107.
9. Tan, Y. et al. (1996) *EMBO J* 15, 4629-42.

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Western Blot Buffer	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	WB: Western Blotting W-S: Simple Western™ IHC-P: Immunohistochemistry (Paraffin) IF-F: Immunofluorescence (Frozen) IF-IC: Immunofluorescence (Immunocytochemistry) FC-FP: Flow Cytometry (Fixed/Permeabilized) ChIP: Chromatin IP ChIP-seq: Chromatin IP-seq C&R: CUT&RUN
Cross-Reactivity Key	H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr: horse GP: Guinea Pig Rab: rabbit All: all species expected
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