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#9197

## CREB (48H2) Rabbit mAb

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

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

For optimal ChIP results, use 10 µl of antibody and 10 µg of chromatin (approximately 4 x 10<sup>6</sup> cells) per IP. This antibody has been validated using SimpleChIP<sup>®</sup> Enzymatic Chromatin IP Kits.

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

The CUT&Tag dilution was determined using CUT&Tag Assay Kit #77552.

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:250
Immunohistochemistry (Paraffin)	1:6400 - 1:25600
Immunofluorescence (Frozen)	1:800 - 1:3200
Immunofluorescence (Immunocytochemistry)	1:800 - 1:3200
Flow Cytometry (Fixed/Permeabilized)	1:200 - 1:800
Chromatin IP	1:50
CUT&RUN	1:50
CUT&Tag	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 #56820.

### Specificity/Sensitivity

CREB (48H2) Rabbit mAb detects endogenous levels of total CREB-1 protein. The antibody does not cross-react with other ATF/CREB family members. Non-specific staining of components along the retinotectal pathway was observed by immunofluorescence in fixed frozen mouse tissue. Non-specific signal is observed in formaldehyde fixed frozen mouse retina by immunofluorescence.

### Source / Purification

Monoclonal antibody is produced by immunizing animals with recombinant protein specific to the amino terminus of human CREB-1 protein. The epitope has been mapped to residues surrounding Glu21.

### 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, Ca<sup>2+</sup>, and stress signaling. Some of the kinases involved in phosphorylating CREB at Ser133 are p90RSK, MSK, CaMKIV, and MAPKAPK-2 (7-9).

### Background References

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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.

<b>Species Reactivity</b>	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
<b>Western Blot Buffer</b>	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.
<b>Applications Key</b>	<b>W:</b> Western Blotting <b>IP:</b> Immunoprecipitation <b>IHC-P:</b> Immunohistochemistry (Paraffin) <b>IF-F:</b> Immunofluorescence (Frozen) <b>IF-IC:</b> Immunofluorescence (Immunocytochemistry) <b>FC-FP:</b> Flow Cytometry (Fixed/Permeabilized) <b>ChIP:</b> Chromatin IP <b>C&amp;R:</b> CUT&RUN <b>C&amp;T:</b> CUT&Tag
<b>Cross-Reactivity Key</b>	<b>H:</b> Human <b>M:</b> Mouse <b>R:</b> Rat <b>Mk:</b> Monkey <b>Dm:</b> D. melanogaster
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