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Store at -20C
#9104

CREB (86B10) Mouse mAb

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

Applications: W, W-S, IF-F, IF-IC	Reactivity: H M R Mk	Sensitivity: Endogenous	MW (kDa): 43	Source/Isotype: Mouse IgG1	UniProt ID: #P16220	Entrez-Gene Id: 1385
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Product Usage Information

Application

Western Blotting
Simple Western™
Immunofluorescence (Frozen)
Immunofluorescence (Immunocytochemistry)

Dilution

1:1000
1:10 - 1:50
1:100 - 1:400
1:100 - 1:400

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 #95478.

Specificity/Sensitivity

CREB (86B10) Mouse mAb detects endogenous levels of total CREB-1 protein. The antibody may also detect the CREB-related protein, ATF-1.

Source / Purification

Monoclonal antibody is produced by immunizing animals with recombinant protein specific to human CREB-1 protein. The epitope has been mapped to residues surrounding Arg131.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **W-S:** Simple Western™ **IF-F:** Immunofluorescence (Frozen) **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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