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Datasheet for 100-401-195

CREB-1 Antibody

Overview

Description:	Anti-CREB-1 (p43) (RABBIT) Antibody - 100-401-195
Item No.:	100-401-195
Size:	100 µL
Applications:	WB, ChIP, EMSA, IHC
Reactivity:	Human, Mouse, Rat
Host Species:	Rabbit

Product Details

Background:	Anti CREB-1 Antibody recognizes CREB (cAMP response element-binding), a cellular transcription factor. CREB binds to certain DNA sequences called cAMP response elements (CRE), thereby increasing or decreasing the transcription of the downstream genes. CREB was first described in 1987 as a cAMP-responsive transcription factor regulating the somatostatin gene. Genes whose transcription is regulated by CREB include: c-fos, the neurotrophin BDNF (Brain-derived neurotrophic factor), tyrosine hydroxylase, and many neuropeptides (such as somatostatin, enkephalin, VGF, and corticotropin-releasing hormone). CREB is closely related in structure and function to CREM (cAMP response element modulator) and ATF-1 (activating transcription factor-1) proteins. CREB proteins are expressed in many animals, including humans. CREB has a well-documented role in neuronal plasticity and long-term memory formation in the brain.
Synonyms:	rabbit anti-CREB1 Antibody, rabbit anti-p43 antibody, Cyclic AMP-responsive element-binding protein 1, cAMP-responsive element-binding protein 1, CREB-1, CREB1, p43
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	Antiserum

Target Details

Gene Name:	CREB1
Reactivity:	Human, Mouse, Rat

Immunogen Type:	Conjugated Peptide
Immunogen:	CREB-1 (p43) peptide corresponding to a region near the N-terminus of the human protein, conjugated to Keyhole Limpet Hemocyanin (KLH).
Purity/Specificity:	Anti-CREB-1 was prepared from monospecific antiserum by delipidation and immunoadsorption against an E.coli lysate immobilized on agarose beads. Anti-CREB-1 (p43) may react non-specifically with other proteins. A partial cross-reactivity is observed against CREM-1 protein.
Relevant Links:	• UniProtKB - P16220 • NCBI - CAG28545.1 • GeneID - 1385

Application Details

Tested Applications:	WB
Suggested Applications:	ChIP, EMSA, IHC (Based on references)
Application Note:	Anti-CREB-1 Antibody has been tested in western blot and suitable in ELISA assays. Specific conditions for reactivity should be optimized by the end user.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:5,000 - 1:25,000
EMSA:	0.5 to 1.0 uL per assay
WB:	1:500 - 1:1,000

Formulation

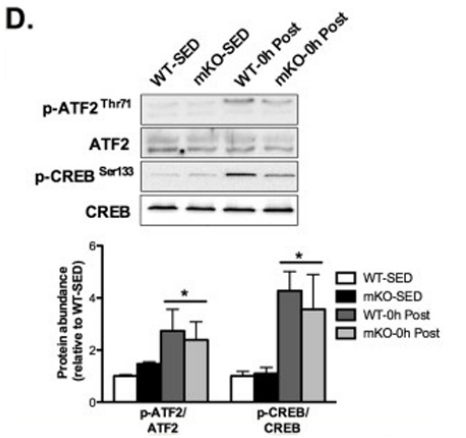
Physical State:	Liquid (sterile filtered)
Concentration:	2.56 mg/ml by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

Shipping & Handling

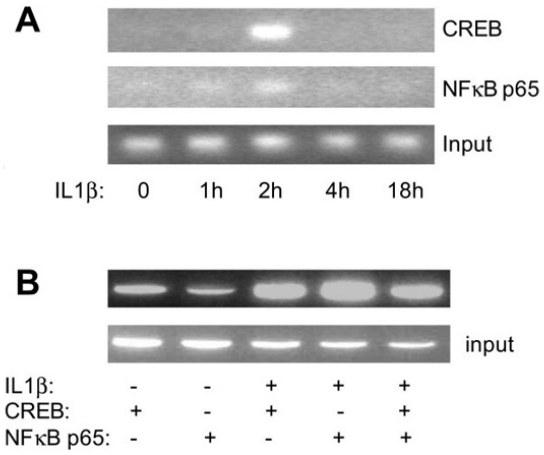
Shipping Condition:	Dry Ice

Storage Condition:	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

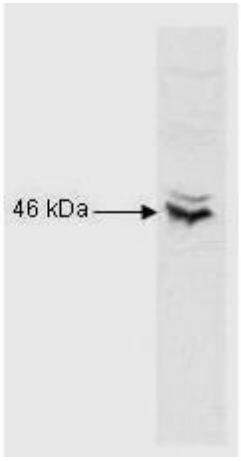
Images



Western Blot
mKO mice display normal activation of exercise-responsive proteins following AEX. Protein phosphorylation and total abundance were determined in gastrocnemius whole muscle lysates of sedentary (SED) mice or immediately after AEX (0 h post).
D. Phosphorylation of ATF2Thr71 and CREBSer133. Data presented as mean ± S.E. (error bars). *, within genotype $p < 0.05$.
FIGURE 3. PMID: 21757760.



ChIP
ChIP and re-ChIP analysis of CREB and p65 binding to the MUC5AC promoter in A549 cells exposed to IL-1β.
A: ChIP analysis following exposure to IL-1β (10 ng/ml) for 0, 1, 2, 4, or 18 h. Nuclear lysates were isolated at the times indicated; DNA-protein complexes were cross-linked, and IP was performed using antibodies to cAMP response element-binding protein (CREB) or to the p65 nuclear factor-κB (NF-κB) subunit. Primers that span the MRD domain were used for PCR analyses of the immune complex.
B: ChIP and re-ChIP analysis at 2 h following IL-1β (10 ng/ml) exposure. Nuclear lysates were immunoprecipitated with antibodies to CREB (lanes 1 and 3) or p65 (lanes 2 and 4) following exposure to PBS or IL-1β. For re-ChIP analysis, the eluent of the immune complex after CREB IP was immunoprecipitated with the p65 antibody and analyzed by PCR (lane 5).
Fig 4. PMID: 24487386.



Western Blot
Anti-CREB is shown to detect CREB-1 present in Raji B cell nuclear extract. Detection occurs using a 1:1,000 dilution of antibody followed by a 1:5,000 dilution of HRP Goat-a-Rabbit IgG with visualization via ECL. Film exposure was approximately 1'. Other detection systems will yield similar results.

References

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- Chen et al. IL-1β induction of MUC5AC gene expression is mediated by CREB and NF-κB and repressed by dexamethasone. *Am J Physiol Lung Cell Mol Physiol.* (2014)
- Wierda RJ et al. Epigenetic control of CCR5 transcript levels in immune cells and modulation by small molecules inhibitors. *J Cell Mol Med.* (2012)
- Philp A, Chen A, Lan D, et al. Sirtuin 1 (SIRT1) deacetylase activity is not required for mitochondrial biogenesis or peroxisome proliferator-activated receptor-gamma coactivator-1alpha (PGC-1alpha) deacetylation following endurance exercise. *J Biol Chem.* (2011)
- Gobin SJ et al. Upregulation of transcription factors controlling MHC expression in multiple sclerosis lesions. *Glia.* (2001)

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