

ARG52253 anti-CREB phospho (Ser133) antibody

Package: 50 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes CREB phospho (Ser133)
Tested Reactivity	Rat
Predict Reactivity	Hu, Ms, Rat, Bov, Chk, Dog, NHuPrm, Sheep, Xenopus laevis, Zfsh
Tested Application	ICC/IF, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	CREB
Species	Rat
Immunogen	Synthetic phospho-peptide corresponding to amino acid residues surrounding Ser133 conjugated to KLH
Conjugation	Un-conjugated
Alternate Names	Cyclic AMP-responsive element-binding protein 1; CREB; CREB-1; cAMP-responsive element-binding protein 1

Application Instructions

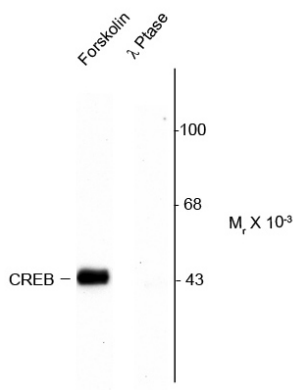
Application table	Application	Dilution
	ICC/IF	Assay-dependent
	WB	1:1,000
Application Note	<p>Specific for the ~45k CREB protein phosphorylated at Ser133. Immunolabeling is blocked by λ-phosphatase treatment.</p> <p>* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.</p>	

Properties

Form	Liquid
Purification	Affinity Purified
Buffer	10 mM HEPES (pH 7.5), 150 mM NaCl, 0.1 mg/ml BSA and 50% Glycerol
Stabilizer	0.1 mg/ml BSA, 50% Glycerol
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

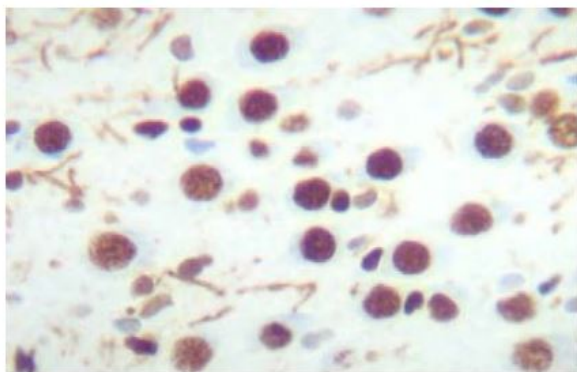
Database links	GeneID: 81646 Rat Swiss-port # P15337 Rat
Gene Symbol	CREB1
Gene Full Name	cAMP responsive element binding protein 1
Background	CREB is a transcription factor. It is a member of the leucine zipper family of DNA binding proteins. This protein binds as a homodimer to the cAMP-responsive element, an octameric palindrome. The protein is phosphorylated by several protein kinases, and induces transcription of genes in response to hormonal stimulation of the cAMP pathway. Alternate splicing of this gene results in several transcript variants encoding different isoforms. [provided by RefSeq, Mar 2016]
Function	CREB is a phosphorylation-dependent transcription factor. It stimulates transcription upon binding to the DNA cAMP response element (CRE), a sequence present in many viral and cellular promoters. Transcription activation is enhanced by the TORC coactivators which act independently of Ser-133 phosphorylation. Involved in different cellular processes including the synchronization of circadian rhythmicity and the differentiation of adipose cells. [UniProt]
Research Area	Gene Regulation antibody; Immune System antibody; Signaling Transduction antibody
Calculated Mw	37 kDa
PTM	Stimulated by phosphorylation. Phosphorylation of both Ser-133 and Ser-142 in the SCN regulates the activity of CREB and participates in circadian rhythm generation. Phosphorylation of Ser-133 allows CREBBP binding. In liver, phosphorylation is induced by fasting or glucagon in a circadian fashion (By similarity). CREBL2 positively regulates phosphorylation at Ser-133 thereby stimulating CREB1 transcriptional activity (By similarity). Phosphorylated upon calcium influx by CaMK4 and CaMK2 on Ser-133. CaMK4 is much more potent than CaMK2 in activating CREB. Phosphorylated by CaMK2 on Ser-142. Phosphorylation of Ser-142 blocks CREB-mediated transcription even when Ser-133 is phosphorylated. Phosphorylated by CaMK1 (By similarity). Phosphorylation of Ser-271 by HIPK2 in response to genotoxic stress promotes CREB1 activity, facilitating the recruitment of the coactivator CBP. Phosphorylated at Ser-133 by RPS6KA3, RPS6KA4 and RPS6KA5 in response to mitogenic or stress stimuli. Sumoylated with SUMO1. Sumoylation on Lys-304, but not on Lys-285, is required for nuclear localization of this protein. Sumoylation is enhanced under hypoxia, promoting nuclear localization and stabilization.

Images



ARG52253 anti-CREB phospho (Ser133) antibody WB image

Western blot: a forskolin-stimulated Rat hippocampal slice showing phospho-specific immunolabeling of the ~45k CREB protein phosphorylated at Ser 133 stained with ARG52253 anti-CREB phospho (Ser133) antibody.



ARG52253 anti-CREB phospho (Ser133) antibody ICC/IF image

Immunofluorescence: Cultured Rat hippocampal slices stained with ARG52253 anti-CREB phospho (Ser133) antibody showing nuclear labeling of CREB phosphorylated at Ser133 in brown.