

CREB1 Recombinant monoclonal antibody

Catalog Number: 88035-1-RR

Basic Information

Catalog Number: 88035-1-RR	GenBank Accession Number: BC010636	Purification Method: Protein A purification
Source: Rabbit	GeneID (NCBI): 1385	CloneNo.: 260329B5
Isotype: IgG	UNIPROT ID: P16220	Recommended Dilutions: WB: 1:5000-1:50000 IHC: 1:50-1:500 IF/ICC: 1:250-1:1000 FC (Intra): 0.25 ug per 10 ⁶ cells in a 100 µl suspension ChIP-qPCR: 1:10-1:100
Immunogen Catalog Number: AG2852	Full Name: cAMP responsive element binding protein 1 Calculated MW: 341 aa, 35 kDa Observed MW: 40-45 kDa	

Applications

Tested Applications: WB, IHC, IF/ICC, FC (Intra), ELISA, ChIP-qPCR	Positive Controls: WB : HeLa cells, HepG2 cells, LNCap cells, Jurkat cells, K-562 cells, NIH/3T3 cells, PC-12 cells IHC : human cervical cancer tissue, mouse brain tissue IF/ICC : HepG2 cells, FC (Intra) : HEK-293 cells, ChIP-qPCR : Forskolin (30 µM) for 1 h HEK-293 cells,
Species Specificity: human, mouse	
Note-IHC: suggested antigen retrieval with TE buffer pH 9.0; (*) Alternatively, antigen retrieval may be performed with citrate buffer pH 6.0	

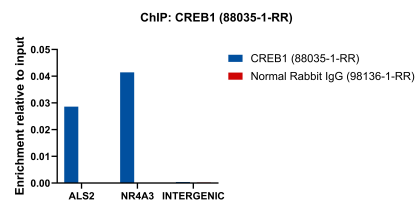
Background Information

CREB1, also named as CREB, belongs to the bZIP family, containing one bZIP domain and one KID (kinase-inducible) domain. This protein binds the cAMP response element (CRE), a sequence present in many viral and cellular promoters. CREB stimulates transcription on binding to the CRE. This protein is 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. Transcription activation is enhanced by the TORC coactivators which act independently of Ser-133 phosphorylation. CREB1 is sumoylated by 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. Defects in CREB1 may be a cause of angiomatoid fibrous histiocytoma (AFH), a distinct variant of malignant fibrous histiocytoma that typically occurs in children and adolescents and is manifest by nodular subcutaneous growth. A chromosomal aberration involving CREB1 is found in a patient with angiomatoid fibrous histiocytoma. Translocation t(2;22)(q33;q12) with CREB1 generates a EWSR1/CREB1 fusion gene that is most common genetic abnormality in this tumor type. CREB1 exists some isoforms and range of calculated molecular weight of isoforms are 35-37 kDa and 25 kDa, but the modified CREB1 protein is about 43 kDa (PMID: 25883219).

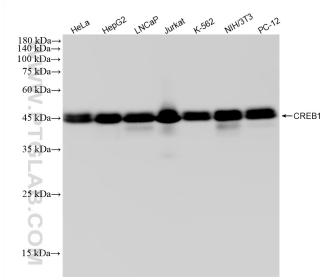
Storage

Storage:
Store at -20°C. Stable for one year after shipment.
Storage Buffer:
PBS with 0.02% sodium azide and 50% glycerol, pH7.3
Aliquoting is unnecessary for -20°C storage

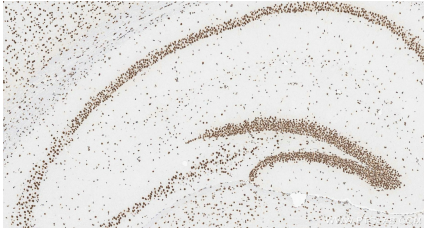
Selected Validation Data



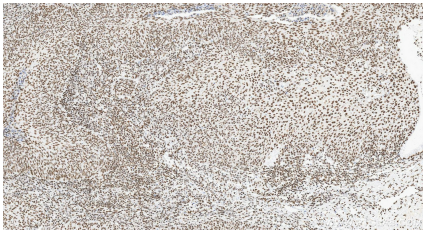
Chromatin was prepared from HEK-293 cells treated with Forskolin (30 μ M, 1 h). Cells were fixed with formaldehyde for 10 minutes. The ChIP was performed with 15 μ g of cross-linked chromatin, 5 μ g of CREB1 (88035-1-RR) or 5 μ g of Normal Rabbit IgG (98136-1-RR), and 20 μ l of Protein A Magarose Beads. The immunoprecipitated DNA was quantified by real-time PCR.



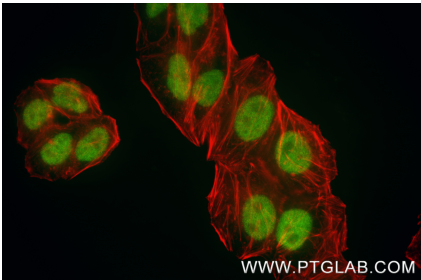
Various lysates were subjected to SDS PAGE followed by western blot with 88035-1-RR (CREB1 antibody) at dilution of 1:10000 incubated at room temperature for 1.5 hours.



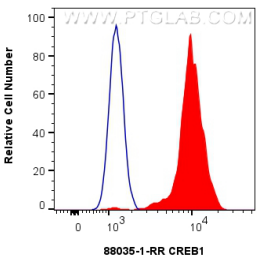
Immunohistochemical analysis of paraffin-embedded mouse brain tissue slide using 88035-1-RR (CREB1 antibody) at dilution of 1:200 (under 10x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Immunohistochemical analysis of paraffin-embedded human cervical cancer tissue slide using 88035-1-RR (CREB1 antibody) at dilution of 1:200 (under 10x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Immunofluorescent analysis of (4% PFA) fixed HepG2 cells using CREB1 antibody (88035-1-RR, Clone: 260329B5) at dilution of 1:500 and Coralite@488-Conjugated Goat Anti-Rabbit IgG(H+L) (SA00013-2).



1x10⁶ HEK-293 cells were intracellularly stained with 0.25 μ g CREB1 Recombinant monoclonal antibody (88035-1-RR, Clone:260329B5) and Coralite@488-Conjugated Goat Anti-Rabbit IgG(H+L) (SA00013-2)(red), or 0.25 μ g Isotype Control (blue). Cells were fixed and permeabilized with Transcription Factor Staining Buffer Kit (PF00011).