

CREB1 Monoclonal antibody

Catalog Number: 67927-1-Ig

Featured Product

6 Publications

Basic Information

Catalog Number:

67927-1-Ig

Concentration:

1000 ug/ml

Source:

Mouse

Isotype:

IgG1

Immunogen Catalog Number:

AG2852

GenBank Accession Number:

BC010636

GeneID (NCBI):

1385

UNIPROT ID:

P16220

Full Name:

cAMP responsive element binding protein 1

Calculated MW:

341 aa, 35 kDa

Observed MW:

43-46 kDa

Purification Method:

Protein A purification

CloneNo.:

1E11C1

Recommended Dilutions:

WB 1:5000-1:50000

IHC 1:1000-1:4000

IF/ICC 1:4000-1:16000

Applications

Tested Applications:

WB, IHC, IF/ICC, ELISA

Cited Applications:

WB, IF, IP

Species Specificity:

human, mouse, rat

Cited Species:

human, mouse, rat, rabbit

Note-IHC: suggested antigen retrieval with TE buffer pH 9.0; (*) Alternatively, antigen retrieval may be performed with citrate buffer pH 6.0

Positive Controls:

WB: LNCaP cells, HEK-293 cells, HeLa cells, HepG2 cells, Jurkat cells, K-562 cells, HSC-T6 cells, NIH/3T3 cells

IHC: human prostate cancer tissue, human cervical cancer tissue

IF/ICC: A431 cells,

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).

Notable Publications

Author	Pubmed ID	Journal	Application
Di Cui	36175877	BMC Cancer	WB
Yan Sun	34469122	ACS Chem Neurosci	WB
Chao Zhang	39802514	J Inflamm Res	WB

Storage

Storage:

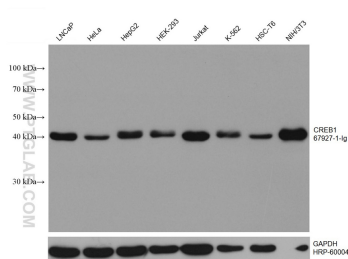
Store at -20°C. Stable for one year after shipment.

Storage Buffer:

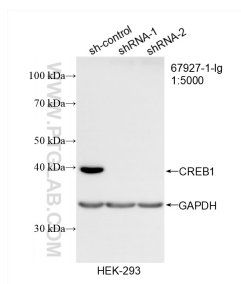
PBS with 0.02% sodium azide and 50% glycerol, pH7.3

Aliquoting is unnecessary for -20°C storage

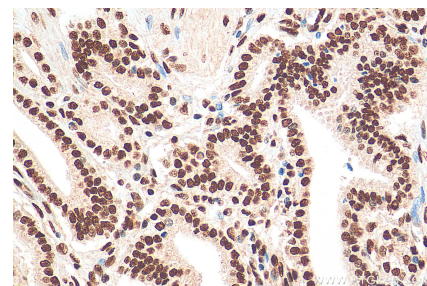
Selected Validation Data



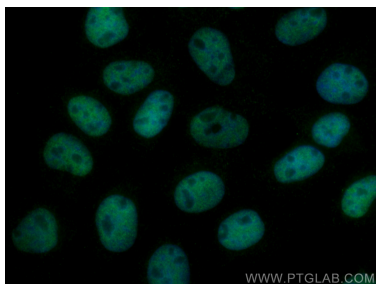
Various lysates were subjected to SDS PAGE followed by western blot with 67927-1-Ig (CREB1 antibody) at dilution of 1:20000 incubated at room temperature for 1.5 hours. The membrane was stripped and reblotted with HRP-conjugated GAPDH Monoclonal antibody (HRP-60004) as loading control.



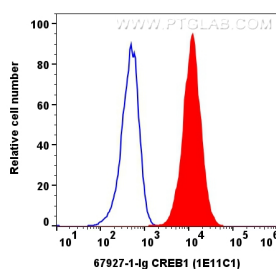
WB result of CREB1 antibody (67927-1-Ig; 1:5000; incubated at room temperature for 1.5 hours) with sh-Control and sh-CREB1 transfected HEK-293 cells.



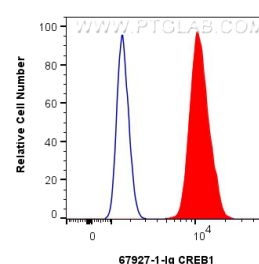
Immunohistochemical analysis of paraffin-embedded human prostate cancer tissue slide using 67927-1-Ig (CREB1 antibody) at dilution of 1:2000 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Immunofluorescent analysis of (4% PFA) fixed A431 cells using CREB1 antibody (67927-1-Ig, Clone: 1E11C1) at dilution of 1:8000 and CoraLite®488-Conjugated AffiniPure Goat Anti-Mouse IgG(H+L).



1×10^6 Jurkat cells were intracellularly stained with $0.2 \mu\text{g}$ CREB1 Monoclonal antibody (67927-1-Ig, Clone:1E11C1, red) and Multi-rAb CoraLite® Plus 647-Goat Anti-Mouse Recombinant Secondary Antibody (H+L)(RGAM005), Mouse IgG1 isotype control (66360-1-Ig, Clone: 1F8D3, blue) was parallel stained as control. Cells were fixed with 4% PFA.



1×10^6 HEK-293 cells were intracellularly stained with $0.25 \mu\text{g}$ CREB1 Monoclonal antibody (67927-1-Ig, Clone:1E11C1) and CoraLite®488-Conjugated Goat Anti-Mouse IgG(H+L) (SA00013-1)(red), or $0.25 \mu\text{g}$ Mouse IgG1 isotype control Mouse McAb (66360-1-Ig, Clone: 1F8D3) (blue). Cells were fixed and permeabilized with Transcription Factor Staining Buffer Kit (PF00011).