

Rabbit Anti-phospho-CREB-1 (Ser133)antibody

SL0036R

Product Name phospho-CREB-1 (Ser133)

Chinese Name 磷酸化 CREB-1 抗体

Alias CREB(Phospho-Ser133); p-CREB-1(Ser133); CREB (phospho S133); pCREB-1(Ser133); p-CREB (phospho S133); Active transcription factor CREB; cAMP response element binding protein; cAMP responsive element binding protein 1; CREB1; CREB 1; CREB1; MGC9284; Transactivator protein; CREB; CREB1_HUMAN.

Product Type Phosphorylated anti

Research Area immunology Chromatin and nuclear signals Signal transduction transcriptional regulatory factor

Immunogen Species Rabbit

Clonality Polyclonal

React Species Human, Mouse, Rat, (predicted: Chicken, Dog, Pig, Cow, Sheep,)

Applications WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=1µg/Test
(Paraffin sections need antigen repair)
not yet tested in other applications.
optimal dilutions/concentrations should be determined by the end user.

Theoretical molecular weight 37kDa

Cellular localization The nucleus

Form Liquid

Concentration 1mg/ml

immunogen KLH conjugated Synthesised phosphopeptide derived from human CREB-1 around the phosphorylation site of Ser133: RP(p-S)YR

Lsotype IgG

Purification affinity purified by Protein A

Buffer Solution 1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.



| | |
|-----------------------|--|
| Storage | Shipped at 4°C. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. |
| Attention | This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications. |
| PubMed | PubMed The ATF/CREB family consists of transcription factors that function through binding to the cAMP responsive element (CRE) palindromic octanucleotide, TGACCTCA. The best characterized members of this gene family include CREB-1, CREB-2, ATF-1, ATF-2, ATF-3 and ATF-4. These transcription factors share highly-related COOH terminal leucine zipper dimerization and basic DNA bindings but are highly divergent in their amino terminal domains. Although each of the ATF/CREB proteins bind CREs in their homodimeric form, in certain instances they also bind as heterodimers, both within the ATF/CREB family and with members of the AP-1 transcription factor family. It has recently been shown that protein kinase A-mediated CREB phosphorylation results in its binding to a 265kDa nuclear protein designated CBP (CREB-binding protein), which may represent a CREB co-activator. |
| Product Detail | <p>Function: Phosphorylation-dependent transcription factor that 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. Independently of Ser-133 phosphorylation. Involved in different cellular processes including the synchronization of circadian rhythmicity and the differentiation of adipose cells. [SUBUNIT] Interacts with PPRC1. Binds DNA as a dimer. This dimer is stabilized by magnesium ions. Interacts, through the bZIP domain, with the coactivators TORC1/CRTC1, TORC2/CRTC2 and TORC3/CRTC3. When phosphorylated on Ser-133, binds CREBBP (By similarity). Interacts with CREBL2; regulates CREB1 phosphorylation, stability and transcriptional activity (By similarity). Interacts (phosphorylated form) with TOX3. Interacts with ARRB1. Binds to HIPK2. Interacts with SGK1.</p> <p>Subunit: Interacts with PPRC1. Binds DNA as a dimer. This dimer is stabilized by magnesium ions. Interacts, through the bZIP domain, with the coactivators TORC1/CRTC1, TORC2/CRTC2 and TORC3/CRTC3. When phosphorylated on Ser-133, binds CREBBP (By similarity). Interacts with CREBL2; regulates CREB1 phosphorylation, stability and transcriptional activity (By similarity). Interacts (phosphorylated form) with TOX3. Interacts with ARRB1. Binds to HIPK2. Interacts with SGK1.</p> <p>Subcellular Location: Nucleus.</p> |

Post-translational modifications:

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 (By similarity). CREBL2 positively regulates phosphorylation at Ser-133 thereby stimulating CREB1 transcriptional activity (By similarity). Phosphorylated upon DNA damage, probably by ATM or ATR. 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.

DISEASE:

Defects in CREB1 may be a cause of angiomatoid fibrous histiocytoma (AFH) [MIM:612160]. A distinct variant of malignant fibrous histiocytoma that typically occurs in children and adolescents and is manifest by nodular subcutaneous growth. Characteristic microscopic features include lobulated sheets of histiocyte-like cells intimately associated with areas of hemorrhage and cystic pseudovascular spaces, as well as a striking cuffing of inflammatory cells, mimicking a lymph node metastasis. Note=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. Note=A CREB1 mutation has been found in a patient with multiple congenital anomalies consisting of agenesis of the corpus callosum, cerebellar hypoplasia, severe neonatal respiratory distress refractory to surfactant, thymus hypoplasia, and thyroid follicular hypoplasia (PubMed:22267179).

Similarity:

Belongs to the bZIP family.
Contains 1 bZIP domain.
Contains 1 KID (kinase-inducible) domain.

SWISS:

P16220

Gene ID:

1385

Database links:

[Entrez Gene: 281713](#) Cow

[Entrez Gene: 1385](#) Human

[Entrez Gene: 12912](#) Mouse

[Entrez Gene: 81646](#) Rat

[Omim: 123810](#) Human

[SwissProt: P27925](#) Cow

[SwissProt: P16220](#) Human

[SwissProt: Q01147](#) Mouse

[SwissProt: P15337](#) Rat

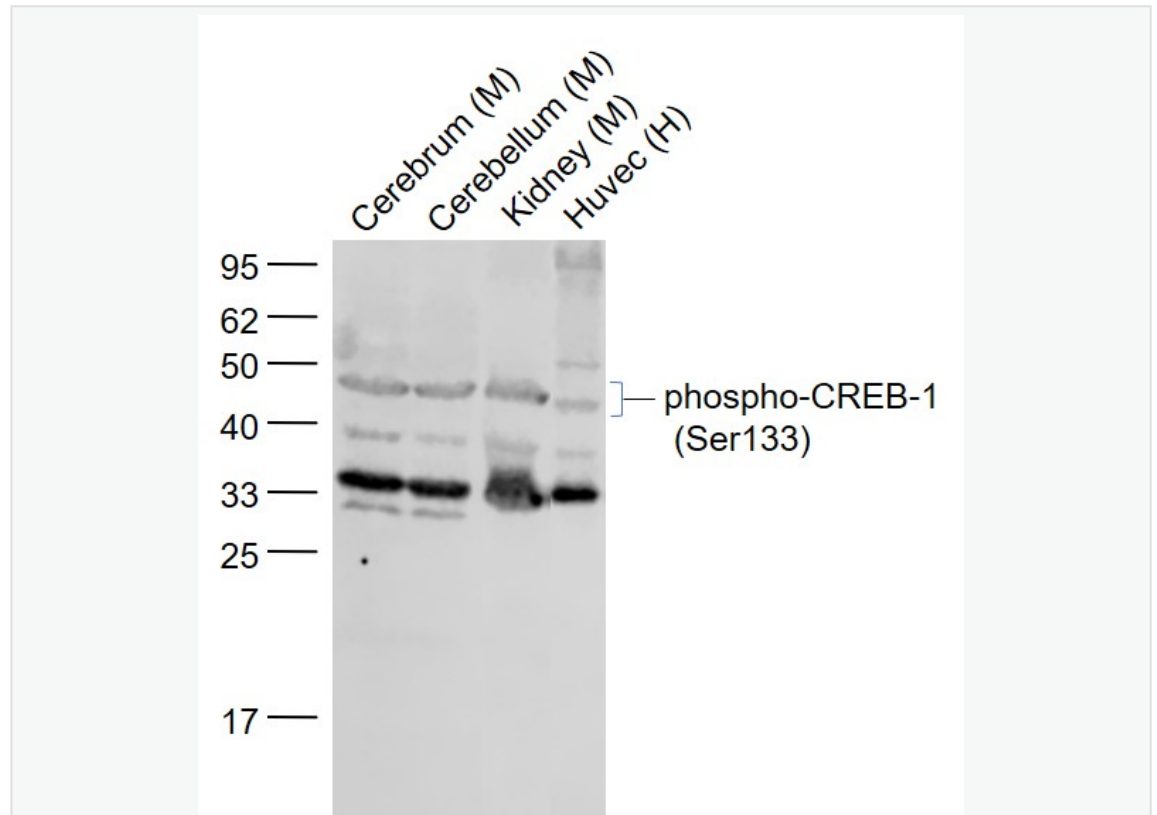
[Unigene: 516646](#) Human

[Unigene: 453295](#) Mouse

[Unigene: 90061](#) Rat

磷酸化环腺苷酸应答元件 Binding protein(p-cAMP responsive element binding protein-1, p-CREB-1)是真核细胞转录因子,属于 ATF/CREB 家族。参与由 cAMP 或某些病毒蛋白质所诱导基因转录的调节。

**Product
Picture**



Sample:

Lane 1: Cerebrum (Mouse) Lysate at 40 ug

Lane 2: Cerebellum (Mouse) Lysate at 40 ug

Lane 3: Kidney (Mouse) Lysate at 40 ug

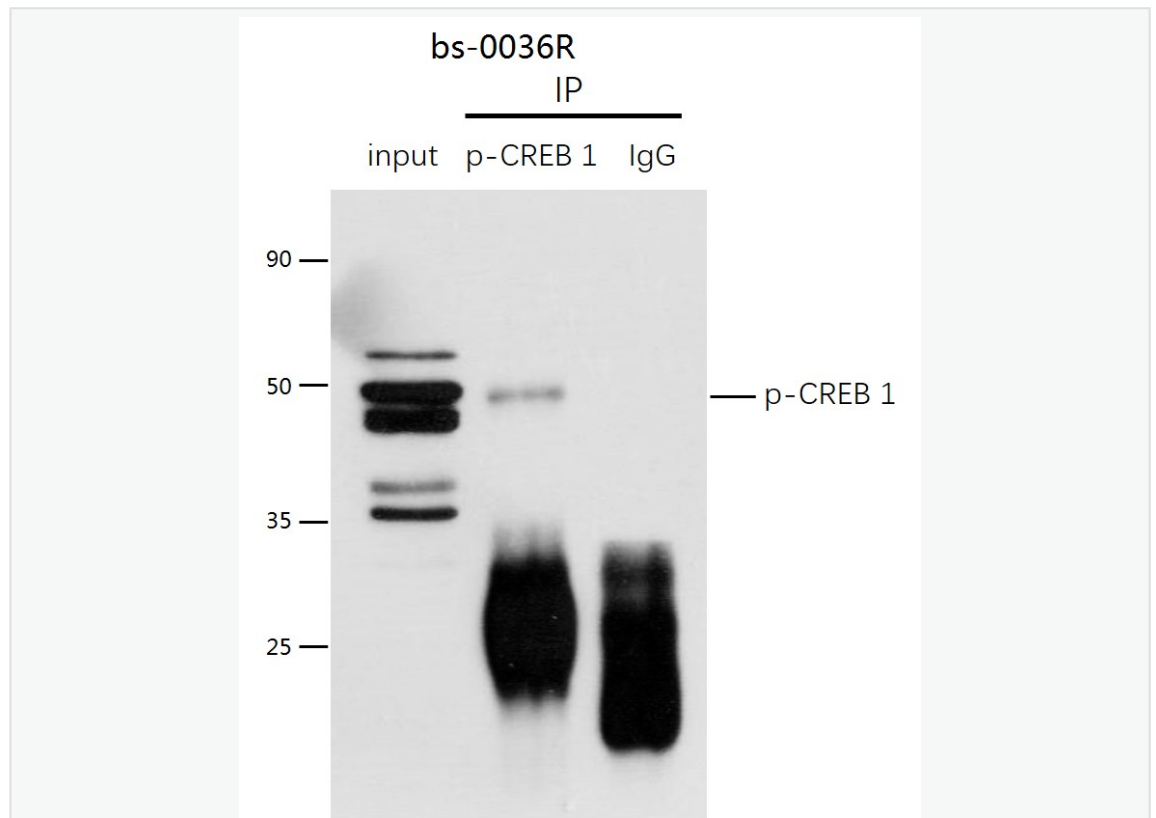
Lane 4: Huvec (Human) Cell Lysate at 30 ug

Primary: Anti-phospho-CREB-1 (Ser133) (SL0036R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 43 kD

Observed band size: 45 kD



P-CREB1 was immunoprecipitated from mouse kidney tissue with SL0036R at 1/150 dilution. Western blot was performed from the immunoprecipitate using protein A/G beads. HRP Conjugated Mouse anti-Rabbit IgG (Light Chain specific) was used as secondary antibody at 1:5000 dilution.

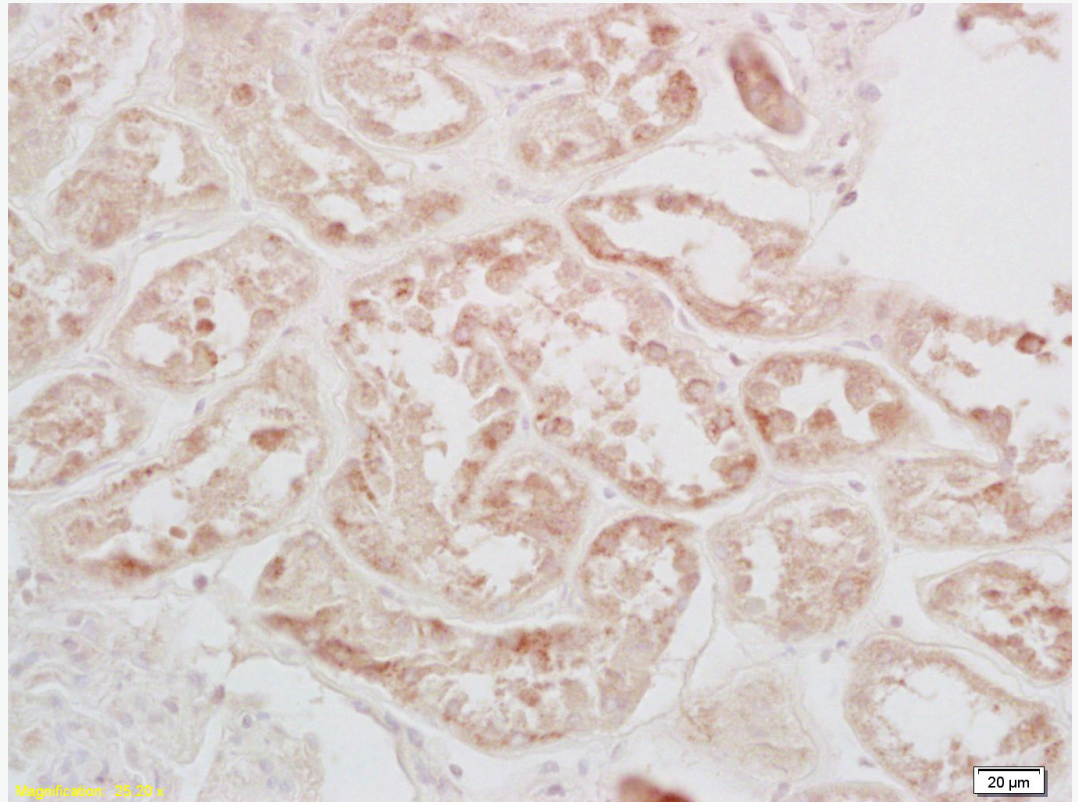
Lane 1: mouse kidney tissue lysate 10 μ g (Input).

Lane 2: SL0036R IP in mouse kidney tissue lysate.

Lane 3: native rabbit IgG IP in mouse kidney tissue lysate (negative control).

Secondary

All lanes : Mouse anti-Rabbit IgG (Light Chain specific), HRP Conjugated, 1:5000

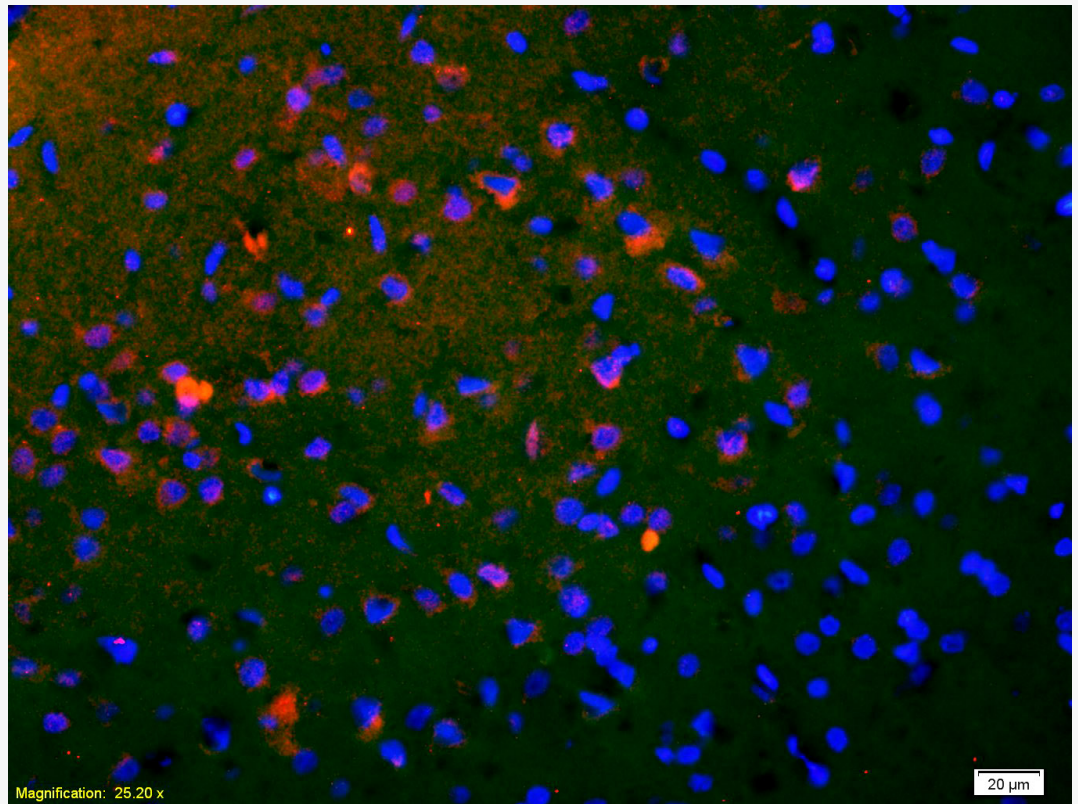


Tissue/cell:SL0036R human kidney tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;

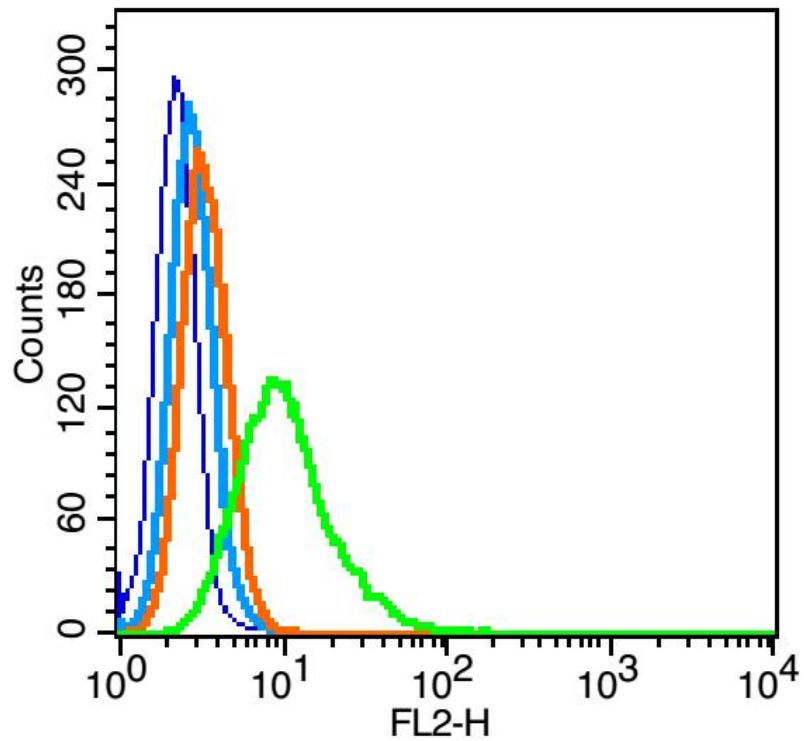
Antigen retrieval: citrate buffer (1M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37°C for 20 min;

Incubation: Anti-phospho-CREB-1(Ser133) Polyclonal Antibody,

Unconjugated(SL0036R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining



Tissue/cell: rat brain tissue;4% Paraformaldehyde-fixed and paraffin-embedded;
Antigen retrieval: citrate buffer (1M, pH 6.0), Boiling bathing for 15min; Blocking
buffer (normal goat serum,C-0005) at 37°C for 20 min;
Incubation: Anti-phospho-CREB-1(Ser133) Polyclonal Antibody,
Unconjugated(SL0036R) 1:200, overnight at 4°C; The secondary antibody was Goat
Anti-Rabbit IgG, Cy3 conjugated (SL0295G-Cy3)used at 1:200 dilution for 40
minutes at 37°C. DAPI(5ug/ml,blue,C-0033) was used to stain the cell nuclei



Blank control: RSC96(blue), the cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with ice-cold 90% methanol for 30 min on ice.

Isotype Control Antibody: Rabbit IgG(orange) ; Secondary Antibody: Goat anti-rabbit IgG-PE(white blue), Dilution: 1:200 in 1 X PBS containing 0.5% BSA ; Primary Antibody Dilution: 1 μ g in 100 μ L1X PBS containing 0.5% BSA(green).