



Rabbit Anti-phospho-CREB-1 (Ser142) antibody

SL5269R

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| Product Name: | phospho-CREB-1 (Ser142) |
| Chinese Name: | 磷酸化CREB-1抗体 |
| Alias: | phospho-CREB-1(S142); CREB-1(phospho Ser142); CREB-1(phospho S142); 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. |
| Organism Species: | Rabbit |
| Clonality: | Polyclonal |
| React Species: | Human,Mouse,Rat,Chicken,Pig,Cow,Horse,Sheep, |
| Applications: | WB=1:500-2000ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800Flow-Cyt=1µg/TestIF=1:100-500 (Paraffin sections need antigen repair) not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user. |
| Molecular weight: | 37kDa |
| Cellular localization: | The nucleus |
| Form: | Lyophilized or Liquid |
| Concentration: | 1mg/ml |
| immunogen: | KLH conjugated Synthesised phosphopeptide derived from human CREB-1 around the phosphorylation site of Ser142:DL(p-S)SD |
| Lsotype: | IgG |
| Purification: | affinity purified by Protein A |
| Storage Buffer: | 0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol. |
| Storage: | Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C. |
| PubMed: | PubMed |
| Product Detail: | 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.

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.

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.

Subcellular Location:

Nucleus.

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. 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

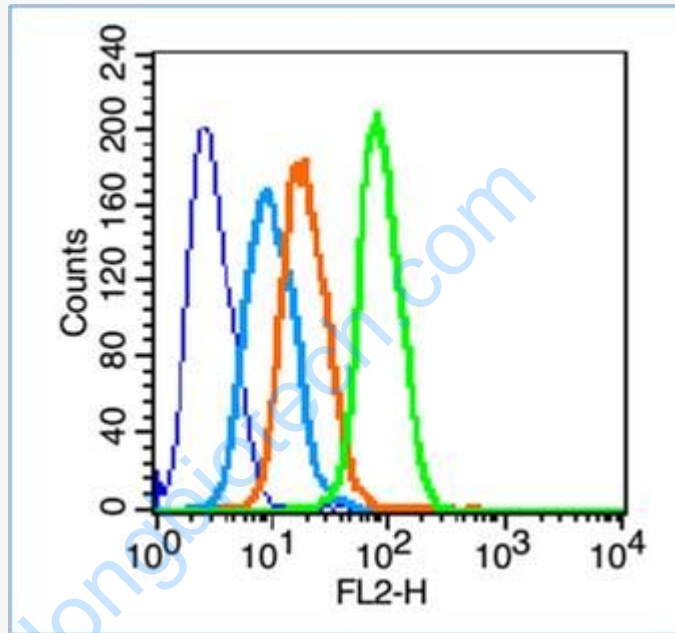
[Unigene: 453295](#)Mouse

[Unigene: 90061](#)Rat

Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

Picture:



Blank control (blue line): Hela cells (fixed with 70% methanol (Overnight at 4°C) and then permeabilized with 90% ice-cold methanol for 20 min at -20°C).

Primary Antibody (green line): Rabbit Anti-phospho-CREB-1(Ser142) antibody (SL5269R), Dilution: 1µg /10⁶ cells;

Isotype Control Antibody (orange line): Rabbit IgG .

Secondary Antibody (white blue line): Goat anti-rabbit IgG-PE, Dilution: 1µg /test.