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Rabbit Anti-phospho-CREB-1 (Ser121) antibody

SL5270R

Product Name:	phospho-CREB-1 (Ser121)
Chinese Name:	磷酸化CREB-1抗体
Alias:	CREB(Phospho-Ser121); p-CREB-1(Ser121); pCREB-1(Ser121); 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 Ser121:TD(p-S)QK
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-3and ATF-4. these transcription factors share highly-related COOH terminal leucine zipper demerization 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 cerain instances they also bind as heterodimers, both within the ATF/CREB family and with members of the AP-1 transcription factor family. It has recentlybeen shown that protein kinase A-mediated CREB phosphorylation results in its binding to a 265kDa nuclear protein designated CBP (CREB-binding protein), which may reprecent 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 (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: 281713Cow

Entrez Gene: 1385Human

Entrez Gene: 12912Mouse

Entrez Gene: 81646Rat

Omim: 123810Human

SwissProt: P27925Cow

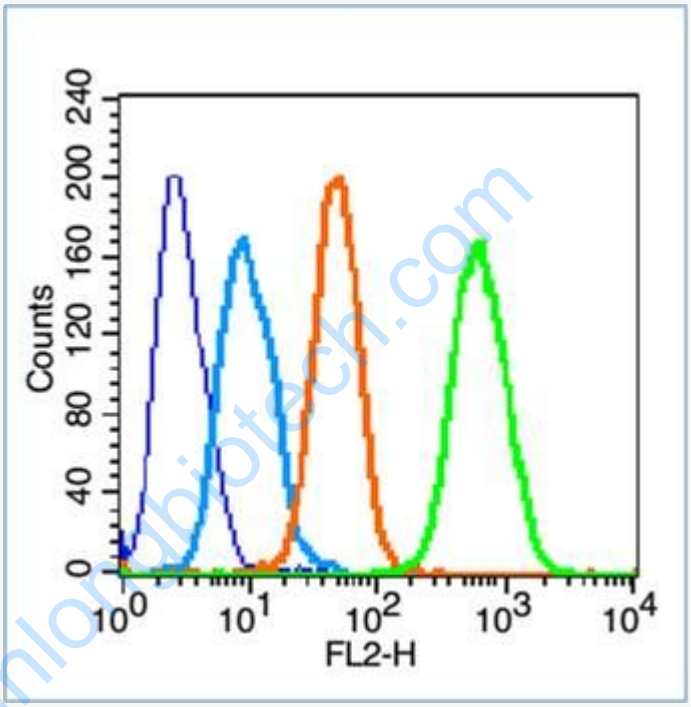
SwissProt: P16220Human

SwissProt: Q01147Mouse

SwissProt: P15337Rat

Unigene: 516646Human

Unigene: 453295Mouse

	Unigene: 90061Rat **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℃) and then permeabilized with 90% ice-cold methanol for 20 min at -20℃). Primary Antibody (green line): Rabbit Anti-phospho-CREB-1(Ser121) antibody (SL5270R),Dilution: 1μg /10^6 cells; Isotype Control Antibody (orange line): Rabbit IgG . Secondary Antibody (white blue line): Goat anti-rabbit IgG-PE,Dilution: 1μg /test.