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CRTC1 Rabbit pAb

Catalog # AP98188

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q6UUV9
Other Accession	Q6UUV9
Reactivity	Rat, Human
Predicted	Mouse, Chicken, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	67300
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human CRTC1
Epitope Specificity	3-100/634
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the TORC family.
SUBUNIT	Binds, as a tetramer, through its N-terminal region, with the bZIP domain of CREB1. 'Arg-314' in the bZIP domain of CREB1 is essential for this interaction. Interaction, via its C-terminal, with TAF4, enhances recruitment of TAF4 to CREB1. Binds HTLV1 Tax.
Post-translational modifications	Phosphorylation/dephosphorylation states of Ser-151 are required for regulating transduction of CREB activity. TORCs are inactive when phosphorylated, and active when dephosphorylated at this site. This primary site of phosphorylation is mediated by SIKs (SIK1 and SIK2), is regulated by cAMP and calcium levels and is dependent on the phosphorylation of SIKs by LKB1 (By similarity). Phosphorylated upon DNA damage, probably by ATM or ATR
DISEASE	Note=A chromosomal aberration involving CRTC1 is found in mucoepidermoid carcinomas, benign Warthin tumors and clear cell hidradenomas. Translocation t(11;19)(q21;p13) with MAML2. The fusion protein consists of the N-terminus of CRTC1 joined to the C-terminus of MAML2. The reciprocal fusion protein consisting of the N-terminus of MAML2 joined to the C-terminus of CRTC1 has been detected in a small number of mucoepidermoid carcinomas.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	which activates transcription through both consensus and variant cAMP response element (CRE) sites. MECT1 does not appear to modulate CREB1 DNA-binding activity but enhances the interaction of CREB1 with TAF4/TAFII-130. MECT1 translocates with MAML2 (MasterMind-Like Protein 2) to yield a fusion oncogene: t(11;19) (q21;p13). This translocation occurs in mucoepidermoid carcinomas, benign Warthin tumors and clear cell hidradenomas. The novel fusion product that results disrupts the Notch signaling pathway. The fusion protein consists of the N-terminus of MECT1 joined to the C-terminus of MAML2. The reciprocal fusion protein consisting of the N-terminus of MAML2 joined to the C-terminus of MECT1 has been

detected in a small number of mucoepidermoid carcinomas. Multiple isoforms have been reported for the MECT1 protein.

Additional Information

Gene ID	23373
Other Names	MAML2; MECT1; Mam-2; TORC-1; TORC1; WAMTP1; mKIAA0616; CRTC1_HUMAN; CRTC1; Mucoepidermoid carcinoma translocated protein 1; Transducer of regulated cAMP response element-binding protein 1 (TORC-1 | Transducer of CREB protein 1); KIAA0616; CRTC1_MOUSE; Mucoepidermoid carcinoma translocated protein 1 homolog; CRTC1_RAT; CREB regulated transcription coactivator 1; mucoepidermoid carcinoma translocated 1; transducer of regulated cAMP response element-binding protein
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=2 □g /Test
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. 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.

Protein Information

Name	CRTC1 (HGNC:16062)
Function	Transcriptional coactivator for CREB1 which activates transcription through both consensus and variant cAMP response element (CRE) sites. Acts as a coactivator, in the SIK/TORC signaling pathway, being active when dephosphorylated and acts independently of CREB1 'Ser-133' phosphorylation. Enhances the interaction of CREB1 with TAF4. Regulates the expression of specific CREB-activated genes such as the steroidogenic gene, StAR. Potent coactivator of PGC1alpha and inducer of mitochondrial biogenesis in muscle cells. In the hippocampus, involved in late-phase long-term potentiation (L-LTP) maintenance at the Schaffer collateral-CA1 synapses. May be required for dendritic growth of developing cortical neurons (By similarity). In concert with SIK1, regulates the light-induced entrainment of the circadian clock. In response to light stimulus, coactivates the CREB-mediated transcription of PER1 which plays an important role in the photic entrainment of the circadian clock.
Cellular Location	Cytoplasm. Nucleus. Note=Cytoplasmic when phosphorylated by SIK or AMPK and when sequestered by 14-3-3 proteins (PubMed:16817901) Translocated to the nucleus on Ser-151 dephosphorylation, instigated by a number of factors including calcium ion and cAMP levels (PubMed:15589160). Light stimulation triggers a nuclear accumulation in the suprachiasmatic nucleus (SCN) of the brain (By similarity) {ECO:0000250|UniProtKB:Q68ED7, ECO:0000269|PubMed:15589160, ECO:0000269|PubMed:16817901}
Tissue Location	Highly expressed in adult and fetal brain. Located to specific regions such as the prefrontal cortex and cerebellum. Very low expression in other tissues such as heart, spleen, lung, skeletal muscle, salivary gland, ovary and kidney.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.