10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

CRTC2 Antibody

Catalog # ASC11650

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q53ET0
Other Accession	NP_859066, 32171215
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	73302
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	CRTC2 antibody can be used for detection of CRTC2 by Western blot at 1 - 2 g/mL.

Additional Information

Gene ID	200186
Other Names	CREB-regulated transcription coactivator 2, Transducer of regulated cAMP response element-binding protein 2, TORC-2, Transducer of CREB protein 2, CRTC2, TORC2
Target/Specificity	CRTC2; Multiple isoforms of CRTC2 are known to exist. CRTC2 antibody is predicted to not cross-react with CRTC1.
Reconstitution & Storage	CRTC2 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	CRTC2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CRTC2
Synonyms	TORC2
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 gluconeogenesis as a component of the LKB1/AMPK/TORC2 signaling pathway. Regulates the expression of specific genes such as the steroidogenic gene, StAR. Potent coactivator of PPARGC1A and inducer of mitochondrial

	biogenesis in muscle cells. Also coactivator for TAX activation of the human T-cell leukemia virus type 1 (HTLV-1) long terminal repeats (LTR).
Cellular Location	Cytoplasm. Nucleus. Note=Translocated from the nucleus to the cytoplasm on interaction of the phosphorylated form with 14-3-3 protein (PubMed:15454081). In response to cAMP levels and glucagon, relocated to the nucleus (PubMed:15454081)
Tissue Location	Most abundantly expressed in the thymus. Present in both B and T-lymphocytes. Highly expressed in HEK293T cells and in insulinomas. High levels also in spleen, ovary, muscle and lung, with highest levels in muscle. Lower levels found in brain, colon, heart, kidney, prostate, small intestine and stomach. Weak expression in liver and pancreas.

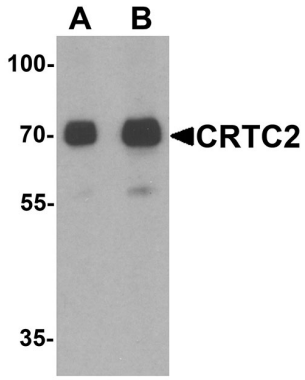
Background

CRTC2 Antibody: CRTC2, also known as TORC2 (Transducers Of Regulated cAMP Response Element-Binding (CREB)) 2 and the related protein CRTC1 are potent CREB coactivators that are exported from the nucleus in a CRM1-dependent manner via phosphorylation-dependent interactions. Studies suggest that their phosphorylation and nuclear/cytoplasmic shuttling play an important role in the regulation of gluconeogenesis by cAMP. CRTC2 is present in both B and T-lymphocytes and abundantly expressed in the thymus. Its activity is important in regulating the expression of genes involved in cellular energy metabolism while CRTC1 is essential for energy balance and fertility.

References

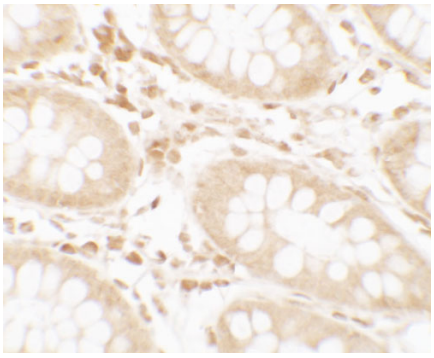
Conkright MD, Canettieri G, Screaton R, et al. TORCs: transducers of regulated CREB activity. Mol. Cell 2003; 12:413-23.
Iourgenko V, Zhang W, Mickanin C, et al. Identification of a family of cAMP response element-binding protein coactivators by genome-scale functional analysis in mammalian cells. Proc. Natl. Acad. Sci. USA 2003; 100:12147-52.
Bittinger MA, McWhinnie E, Meltzer J, et al. Activation of cAMP response element-mediated gene expression by regulated nuclear transport of TORC proteins. Curr. Biol. 2004; 14: 2156-61.
Jiang S, Inada T, Tanaka M, et al. Involvement of TORC2, a CREB co-activator, in the in vivo-specific transcriptional control of HTLV-1. Retrovirology 2009; 6:73.

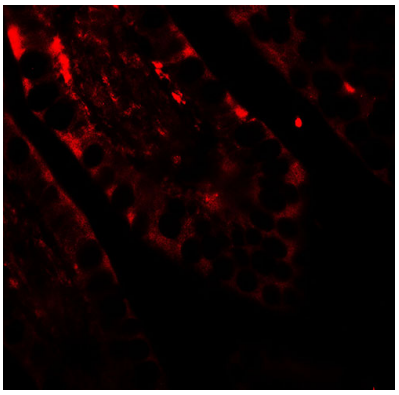
Images



Western blot analysis of CRTC2 in human small intestine tissue lysate with CRTC2 antibody at (A) 0.5 and (B) 1 µg/mL.

Immunohistochemistry of CRTC2 in human small intestine tissue with CRTC2 antibody at 2.5 µg/ml.





Immunofluorescence of CRTC2 in human small intestine tissue with CRTC2 antibody at 20 µg/ml.

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