

[KD]TORC2 Rabbit mAb

Catalog # AP76743

Product Information

Application	WB, IHC-P
Primary Accession	Q53ET0
Reactivity	Rat, Human
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Purification	Affinity Purified
Calculated MW	73302

Additional Information

Gene ID	200186
Other Names	CRTC2
Dilution	WB~~1:1000 IHC-P~~N/A
Format	Liquid in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

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

Glucose homeostasis is regulated by hormones and cellular energy status. Elevations of blood glucose during feeding stimulate insulin release from pancreatic β -cells through a glucose sensing pathway. Feeding also stimulates release of gut hormones such as glucagon-like peptide-1 (GLP-1), which further induces insulin release, inhibits glucagon release and promotes β -cell viability. CREB-dependent transcription likely plays a role in both glucose sensing and GLP-1 signaling. The protein Torc2 (transducer of regulated CREB activity 2) functions as a CREB co-activator and is implicated in mediating the effects of these two pathways. In quiescent cells, Torc2 is phosphorylated at Ser171 and becomes sequestered in the cytoplasm via an interaction with 14-3-3 proteins. Glucose and gut hormones lead to the dephosphorylation of Torc2 and its dissociation from 14-3-3 proteins. Dephosphorylated Torc2 enters the nucleus to promote CREB-dependent transcription. Torc2 plays a key role in the regulation of hepatic gluconeogenic gene transcription in response to hormonal and energy signals during fasting. Tissue specificity: 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.

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