

TORC1 Monoclonal Antibody

Description

Product type	Primary Antibody
Code	BT-MCA1214
Host	Mouse
Isotype	IgG
Size	50ul, 100ul
Immunogen	Purified recombinant fragment of human TORC1 expressed in E. Coli.
Mol wt	N/A
Species reactivity	Human
Clonality	Monoclonal
Recommended application	WB, IF, ICC, FCM, ELISA
Concentration	1 mg/ml
Full name	CREB-regulated transcription coactivator 1
Synonyms	CRTC1; KIAA0616; MECT1; TORC1; WAMTP1; CREB-regulated transcription coactivator 1; Mucoepidermoid carcinoma translocated protein 1; Transducer of regulated cAMP response element-binding protein 1; TORC-1; Transducer of CREB protein 1

This product is for research use only, not for use in human, therapeutic or diagnostic procedure.

Background

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. **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. Also coactivator for TAX activation of the human T-cell leukemia virus type 1 (HTLV-1) long terminal repeats (LTR). In the hippocampus, involved in late-phase long-term potentiation (L-LTP) maintenance at the Schaffer collateral-CA1 synapses. **PTM:**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 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. **similarity:**Belongs to the TORC family. **subcellular location:**Cytoplasmic when phosphorylated by SIK or AMPK and when sequestered by 14-3-3 proteins (By similarity). Translocated to the nucleus on Ser-151 dephosphorylation, instigated by a number of factors including calcium ion and cAMP levels. **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. **tissue specificity:**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.

Recommended Dilution

ELISA: 1:10000

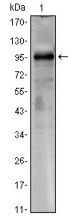
FC: 1:200 - 1:400

IF: 1:200 - 1:1000

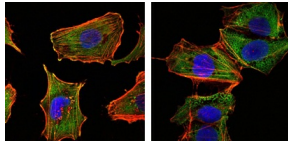
WB: 1:500 - 1:2000

Not yet tested in other applications.

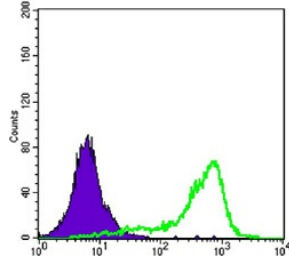
Images



Western Blot analysis using TORC1 Monoclonal antibody against CRTCI-hIgGFc transfected HEK293 cell lysate.



Immunofluorescence analysis of U251 (left) and NTERA2 (right) cells using TORC1 Monoclonal antibody (green). Red: Actin filaments have been labeled with DY-554 phalloidin. Blue: DRAQ5 fluorescent DNA dye.



Flow cytometric analysis of K562 cells using TORC1 Monoclonal antibody (green) and negative control (purple).

Storage

-20°C for one year

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