abcam

ab92477

Anti-TORC1 antibody [EPR3382]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR3382
Purification technique	Affinity purification Protein A
Concentration	0.662 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Rat, Human, Mouse
Dilution info	-
Notes	-

WB

Tested

Species	Rat
Dilution info	1/1000 - 1/5000
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Rat, Human, Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information CRTC1

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. (Microbial infection) Plays a role of coactivator for TAX activation of the human T-cell leukemia virus type 1 (HTLV-1) long terminal repeats (LTR).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	TORC1 also known as Target of Rapamycin Complex 1 is a protein complex that regulates cell growth and metabolism in response to nutrients and growth factors. This complex contains proteins such as mTOR Raptor and mLST8. The mass of mTOR the catalytic subunit is approximately 289 kDa. TORC1 is mostly expressed in tissues with high metabolic activity including the liver muscle and adipose tissue. It functions as a serine/threonine kinase playing a significant role in protein synthesis autophagy and energy metabolism.
Biological function summary	TORC1 holds a central role in cellular responses to nutrients and energy status. It is a part of the larger mechanistic target of rapamycin (mTOR) signaling pathway. This pathway influences essential cellular processes such as growth proliferation and survival. TORC1 activity increases in the presence of nutrients such as amino acids and is necessary for ribosomal biogenesis and translation initiation. It also acts as an important regulator of autophagy where its inhibition promotes autophagic degradation of cellular components balancing energy and resource availability.
Pathways	TORC1 integrates signals from related pathways such as PI3K-AKT and AMPK. These pathways facilitate the balance between anabolic and catabolic processes. The PI3K-AKT pathway stimulates TORC1 activity promoting cell growth and proliferation while the AMPK pathway inhibits TORC1 during low energy states conserving cellular resources. Proteins like TSC1/TSC2 complex and Rheb interact with TORC1 modulating its kinase activity based on cellular and environmental conditions.
Associated diseases and disorders	TORC1 dysregulation links to conditions like cancer and type 2 diabetes. Overactivation of TORC1 contributes to unchecked cell proliferation in various cancers. Agents that inhibit TORC1 activity such as rapamycin show potential in cancer treatment to curb tumor growth. In type 2 diabetes TORC1 is connected through insulin signaling pathways as excess TORC1 activity may lead to insulin resistance. Proteins like IRS-1 which interacts with TORC1 play a role in these metabolic and proliferative disorders.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

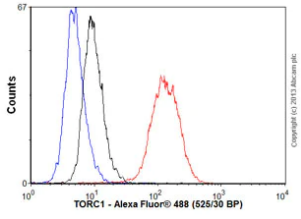
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

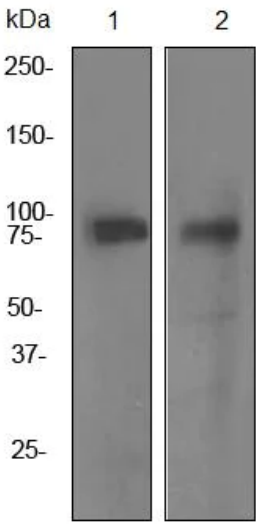
2 product images



Flow Cytometry (Intracellular) - Anti-TORC1 antibody [EPR3382] (ab92477)

TORC1 Flow Cytometry (Intracellular) staining using rabbit Anti-TORC1 antibody

Overlay histogram showing SHSY-5Y cells stained with ab92477 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab92477 1/1000 dilution) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit IgG (H&L) (ab150077) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (0.1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter. This antibody gave a positive signal in SHSY-5Y cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Western blot - Anti-TORC1 antibody [EPR3382] (ab92477)

All lanes:
Western blot - Anti-TORC1 antibody [EPR3382] (ab92477) at 1/1000 dilution

Lane 1:
Fetal brain lysate at 10 µg

Lane 2:
C6 cell lysate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit antibody at 1/2000 dilution

Predicted band size: 67 kDa

Observed band size: 78 kDa

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