abcam

ab264421

Anti-TFEB antibody [BLR070G]

Recombinant | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 8.2 Preservative: 0.09% Sodium azide Constituents: 99% Borate buffered saline, 0.1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human TFEB aa 400 to C-terminus. The exact immunogen used to generate this antibody is proprietary information. Database link P19484
Clone number	BLR070G
Purification notes	Purified from cell culture supernatant.

Reactivity data

IP

Tested

Species	Human
Dilution info	-
Notes	20 µl/mg lysate

Expected

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

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1 µL for 10^6 Cells
Notes	-

Expected

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

Target data

See full target information TFEB

Function	Transcription factor that acts as a master regulator of lysosomal biogenesis, autophagy, lysosomal exocytosis, lipid catabolism, energy metabolism and immune response (PubMed:21617040, PubMed:22343943, PubMed:22576015, PubMed:22692423, PubMed:25720963, PubMed:30120233, PubMed:31672913,

PubMed:32612235, PubMed:32753672, PubMed:35662396, PubMed:36697823, PubMed:36749723, PubMed:37079666). Specifically recognizes and binds E-box sequences (5'-CANNTG-3'); efficient DNA-binding requires dimerization with itself or with another MiT/TFE family member such as TFE3 or MITF (PubMed:1748288, PubMed:19556463, PubMed:29146937). Involved in the cellular response to amino acid availability by acting downstream of MTOR: in the presence of nutrients, TFEB phosphorylation by MTOR promotes its cytosolic retention and subsequent inactivation (PubMed:21617040, PubMed:22343943, PubMed:22576015, PubMed:22692423, PubMed:25720963, PubMed:32612235, PubMed:32753672, PubMed:35662396, PubMed:36697823). Upon starvation or lysosomal stress, inhibition of MTOR induces TFEB dephosphorylation, resulting in nuclear localization and transcription factor activity (PubMed:22343943, PubMed:22576015, PubMed:22692423, PubMed:25720963, PubMed:32612235, PubMed:32753672, PubMed:35662396, PubMed:36697823). Specifically recognizes and binds the CLEAR-box sequence (5'-GTCACGTGAC-3') present in the regulatory region of many lysosomal genes, leading to activate their expression, thereby playing a central role in expression of lysosomal genes (PubMed:19556463, PubMed:22692423). Regulates lysosomal positioning in response to nutrient deprivation by promoting the expression of PIP4P1 (PubMed:29146937). Acts as a positive regulator of autophagy by promoting expression of genes involved in autophagy (PubMed:21617040, PubMed:22576015, PubMed:23434374, PubMed:27278822). In association with TFE3, activates the expression of CD40L in T-cells, thereby playing a role in T-cell-dependent antibody responses in activated CD4(+) T-cells and thymus-dependent humoral immunity (By similarity). Specifically recognizes the gamma-E3 box, a subset of E-boxes, present in the heavy-chain immunoglobulin enhancer (PubMed:2115126). Plays a role in the signal transduction processes required for normal vascularization of the placenta (By similarity). Involved in the immune response to infection by the bacteria S.aureus, S.typhimurium or S.enterica: infection promotes itaconate production, leading to alkylation, resulting in nuclear localization and transcription factor activity (PubMed:35662396). Itaconate-mediated alkylation activates TFEB-dependent lysosomal biogenesis, facilitating the bacteria clearance during the antibacterial innate immune response (PubMed:35662396). In association with ACSS2, promotes the expression of genes involved in lysosome biogenesis and both autophagy upon glucose deprivation (PubMed:28552616).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Aliquoting information	Upon delivery aliquot

Storage information	Avoid freeze / thaw cycle, Do Not Freeze

Notes

REACH authorisation
Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.
It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

This product is sold under License from Bethyl Laboratories, Inc.

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

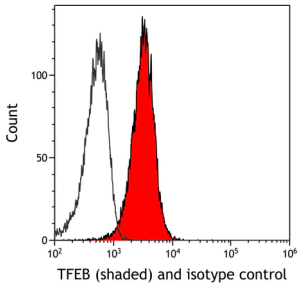
We do not recommend this combination. It is not covered by our product promise.

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.

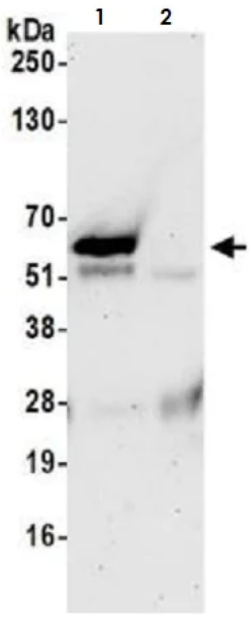
Full details and terms and conditions can be found here:
Terms & Conditions.

4 product images



Flow Cytometry - Anti-TFEB antibody [BLR070G] (ab264421)

Flow cytometry overlay histogram of 4% formaldehyde fixed Daudi cells permeabilized with 90% methanol labeling human TFEB with ab264421 at 1 µl per 1 x 10^6 cells (shaded) compared with a Isotype control (unshaded). Secondary antibody details: Goat Anti-Rabbit IgG H&L (DyLight® 650) (ab96886).



Immunoprecipitation - Anti-TFEB antibody [BLR070G] (ab264421)

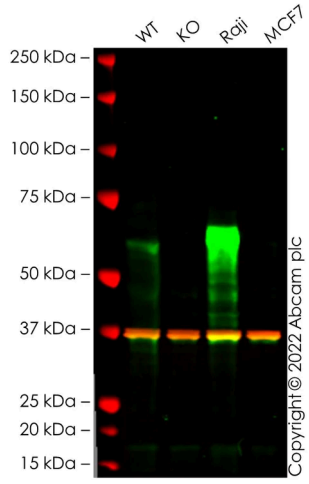
TFEB was immunoprecipitated from HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate (1.0 mg per IP reaction; 20% of IP loaded) with ab264421 at 20 µl/mg lysate. Western blot was performed from the immunoprecipitates using ab264421 at 1/1000 dilution.
Lane 1: ab264421 IP in HeLa whole cell lysate.
Lane 2: Control IgG IP in HeLa whole cell lysate.

Detection: Chemiluminescence with an exposure time of 75 seconds.

Lysates prepared using NETN lysis buffer.

All lanes:
Immunoprecipitation - Anti-TFEB antibody [BLR070G] (ab264421)

Predicted band size: 53 kDa



Western blot - Anti-TFEB antibody [BLR070G] (ab264421)

TFEB Western blot staining using rabbit Anti-TFEB antibody

False colour image of Western blot: Anti-TFEB antibody [BLR070G] staining at 1/1000 dilution, shown in green; Mouse anti-GAPDH antibody [6C5] (ab8245) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab264421 was shown to bind specifically to TFEB. A band was observed at 60 kDa in wild-type HepG2 cell lysates with no signal observed at this size in TFEB knockout cell line ab277871 (knockout cell lysate ab284220). To generate this image, wild-type and TFEB knockout HepG2 cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3 % milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) at 1/20000 dilution.
All lanes:
Western blot - Anti-TFEB antibody [BLR070G] (ab264421) at 1/1000 dilution

Lane 1:
Wild-type HepG2 cell lysate at 20 µg

Lane 2:
TFEB knockout HepG2 cell lysate at 20 µg

Lane 2:
Western blot - Human TFEB knockout Hep G2 cell line (ab277871)

Lane 3:

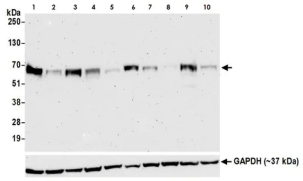
Raji cell lysate at 20 µg

Lane 4:
MCF7 cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 53 kDa

Observed band size: 60 kDa



Western blot - Anti-TFEB antibody [BLR070G] (ab264421)

Lysates prepared using NETN lysis buffer.
All lanes:
Western blot - Anti-TFEB antibody [BLR070G] (ab264421) at 1/1000 dilution

Lane 1:
HeLa whole cell lysate at 50 µg

Lane 2:
A549 whole cell lysate at 50 µg

Lane 3:
HepG2 whole cell lysate at 50 µg

Lane 4:
Jurkat whole cell lysate at 50 µg

Lane 5:
RKO whole cell lysate at 50 µg

Lane 6:
K562 whole cell lysate at 50 µg

Lane 7:
LNcaP whole cell lysate at 50 µg

Lane 8:
MCF7 whole cell lysate at 50 µg

Lane 9:
TCMK-1 whole cell lysate at 50 µg

Lane 10:
NIH/3T3 whole cell lysate at 50 µg

Secondary

All lanes:
HRP-conjugated goat anti-rabbit IgG

Developed using the ECL technique.

Predicted band size: 53 kDa

Exposure time: 3min

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