

TFEB Antibody (Center)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP18994c

Specification

TFEB Antibody (Center) - Product Information

Application	WB,E
Primary Accession	P19484
Other Accession	Q9R210 , NP_009093.1
Reactivity	Human
Predicted	Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit Ig
Calculated MW	52865
Antigen Region	271-300

TFEB Antibody (Center) - Additional Information

Gene ID 7942

Other Names

Transcription factor EB, Class E basic helix-loop-helix protein 35, bHLHe35, TFEB, BHLHE35

Target/Specificity

This TFEB antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 271-300 amino acids from the Central region of human TFEB.

Dilution

WB~~1:1000

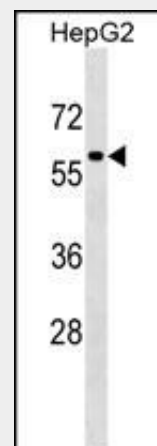
Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions



TFEB Antibody (Center) (Cat. #AP18994c) western blot analysis in HepG2 cell line lysates (35ug/lane). This demonstrates the TFEB antibody detected the TFEB protein (arrow).

TFEB Antibody (Center) - Background

Transcription factor that specifically recognizes and binds E-box sequences (3'-CANNTG-5'). Efficient DNA-binding requires dimerization with itself or with another MiT/TFE family member such as TFE3 or MITF. 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. 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. It thereby plays a central role in expression of lysosomal genes. Specifically recognizes the gamma-E3 box, a subset of E-boxes, present in the heavy-chain immunoglobulin enhancer. Plays a role in the signal transduction processes required for normal vascularization of the placenta.

TFEB Antibody (Center) - References

TFEB Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

TFEB Antibody (Center) - Protein Information

Name TFEB

{ECO:0000303|PubMed:2115126,
ECO:0000312|HGNC:HGNC:11753}

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:22576015, PubMed:22343943, PubMed:22692423, PubMed:30120233, PubMed:31672913). 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:22576015).

Martignoni, G., et al. Mod. Pathol. 22(8):1016-1022(2009)
Sardiello, M., et al. Science 325(5939):473-477(2009)
Lesch, K.P., et al. J Neural Transm 115(11):1573-1585(2008)
Pecciarini, L., et al. Genes Chromosomes Cancer 46(5):419-426(2007)
Argani, P., et al. Am. J. Surg. Pathol. 29(2):230-240(2005)

target="_blank">22576015,
PubMed:<a href="http://www.uniprot.org/citations/22343943"
target="_blank">22343943,
PubMed:<a href="http://www.uniprot.org/citations/22692423"
target="_blank">22692423). Upon
starvation or lysosomal stress, inhibition of
MTOR induces TFEB dephosphorylation,
resulting in nuclear localization and
transcription factor activity (PubMed:22576015,
PubMed:<a href="http://www.uniprot.org/citations/22343943"
target="_blank">22343943,
PubMed:<a href="http://www.uniprot.org/citations/22692423"
target="_blank">22692423).
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:<a href="http://www.uniprot.org/citations/22692423"
target="_blank">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* or *S.enterica*, acting downstream of protein kinase D (PKD), probably by regulating cytokine and chemokine expression (By similarity).

Cellular Location

Cytoplasm, cytosol. Lysosome membrane
Nucleus. Note=Mainly present in the cytoplasm (PubMed:23434374, PubMed:33691586). Under aberrant lysosomal storage conditions, it translocates from the cytoplasm to the nucleus (PubMed:21617040, PubMed:22576015, PubMed:23434374). The translocation to the nucleus is regulated by ATP13A2 (PubMed:23434374, PubMed:27278822). Colocalizes with mTORC1 on the lysosomal membrane: when nutrients are present, phosphorylation by MTOR prevents nuclear translocation and activity (PubMed:22343943, PubMed:22692423). Conversely, inhibition of mTORC1, starvation and lysosomal disruption, promotes dephosphorylation and translocation to the nucleus (PubMed:22343943, PubMed:22692423). Exported from the nucleus in response to nutrient availability (PubMed:30120233). In macrophages, translocates into the nucleus upon live *S.enterica* infection (PubMed:27184844).

TFEB Antibody (Center) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)