

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	O9R210 , NP_009093.1
Reactivity	Human
Predicted	Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
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) 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:[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:[22576015](#), PubMed:[22343943](#), 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:[22576015](#), PubMed:[22343943](#), 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 ACS2, promotes the expression of genes involved in lysosome biogenesis and both autophagy upon glucose deprivation (PubMed:[28552616](#)).

Cellular Location

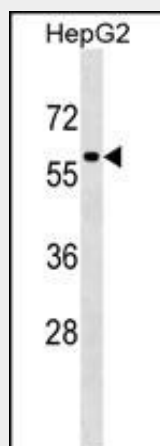
Nucleus. Cytoplasm, cytosol. Lysosome membrane. Note=Mainly present in the cytoplasm (PubMed:[23434374](#), PubMed:[33691586](#), PubMed:[35662396](#)). When nutrients are present, recruited to the lysosomal membrane via association with GDP- bound RagC/RRAGC (or RagD/RRAGD): it is then phosphorylated by MTOR (PubMed:[23401004](#), PubMed:[32612235](#), PubMed:[36697823](#)). Phosphorylation by MTOR prevents nuclear translocation and activity by promoting interaction with 14-3-3 proteins, such as YWHAZ (PubMed:[22343943](#), PubMed:[22692423](#), PubMed:[23401004](#), PubMed:[25720963](#), PubMed:[32612235](#), PubMed:[32753672](#), PubMed:[35662396](#), PubMed:[36697823](#), PubMed:[37079666](#)). Under aberrant lysosomal storage conditions, it translocates from the cytoplasm to the nucleus (PubMed:[21617040](#), PubMed:[22576015](#), PubMed:[23434374](#), PubMed:[25720963](#), PubMed:[32753672](#)). The translocation to the nucleus is regulated by ATP13A2 (PubMed:[23434374](#), PubMed:[27278822](#)). Conversely, inhibition of mTORC1, starvation and lysosomal disruption, promotes dephosphorylation and translocation to the nucleus (PubMed:[22343943](#), PubMed:[22692423](#), PubMed:[37079666](#)). 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](#)

TFEB Antibody (Center) - Images



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

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Pecciarini, L., et al. Genes Chromosomes Cancer 46(5):419-426(2007)
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