

[25720963](http://www.uniprot.org/citations/25720963), PubMed: [30120233](http://www.uniprot.org/citations/30120233), PubMed: [31672913](http://www.uniprot.org/citations/31672913), PubMed: [32612235](http://www.uniprot.org/citations/32612235), PubMed: [32753672](http://www.uniprot.org/citations/32753672), PubMed: [35662396](http://www.uniprot.org/citations/35662396), PubMed: [36697823](http://www.uniprot.org/citations/36697823), PubMed: [36749723](http://www.uniprot.org/citations/36749723), PubMed: [37079666](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/1748288), PubMed: [19556463](http://www.uniprot.org/citations/19556463), PubMed: [29146937](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/21617040), PubMed: [22576015](http://www.uniprot.org/citations/22576015), PubMed: [22343943](http://www.uniprot.org/citations/22343943), PubMed: [22692423](http://www.uniprot.org/citations/22692423), PubMed: [25720963](http://www.uniprot.org/citations/25720963), PubMed: [32612235](http://www.uniprot.org/citations/32612235), PubMed: [32753672](http://www.uniprot.org/citations/32753672), PubMed: [35662396](http://www.uniprot.org/citations/35662396), PubMed: [36697823](http://www.uniprot.org/citations/36697823)). Upon starvation or lysosomal stress, inhibition of MTOR induces TFEB dephosphorylation, resulting in nuclear localization and transcription factor activity (PubMed: [22576015](http://www.uniprot.org/citations/22576015), PubMed: [22343943](http://www.uniprot.org/citations/22343943), PubMed: [22692423](http://www.uniprot.org/citations/22692423), PubMed: [25720963](http://www.uniprot.org/citations/25720963), PubMed: [32612235](http://www.uniprot.org/citations/32612235), PubMed: [32753672](http://www.uniprot.org/citations/32753672), PubMed: [35662396](http://www.uniprot.org/citations/35662396), PubMed: [36697823](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/19556463), PubMed: [22692423](http://www.uniprot.org/citations/22692423)). Regulates lysosomal positioning in response to nutrient deprivation by promoting the expression of PIP4P1 (PubMed: [29146937](http://www.uniprot.org/citations/29146937)). Acts as a positive regulator of autophagy by promoting expression of genes involved in autophagy (PubMed: [21617040](http://www.uniprot.org/citations/21617040), PubMed: [22576015](http://www.uniprot.org/citations/22576015), PubMed: [23434374](http://www.uniprot.org/citations/23434374), PubMed: [27278822](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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

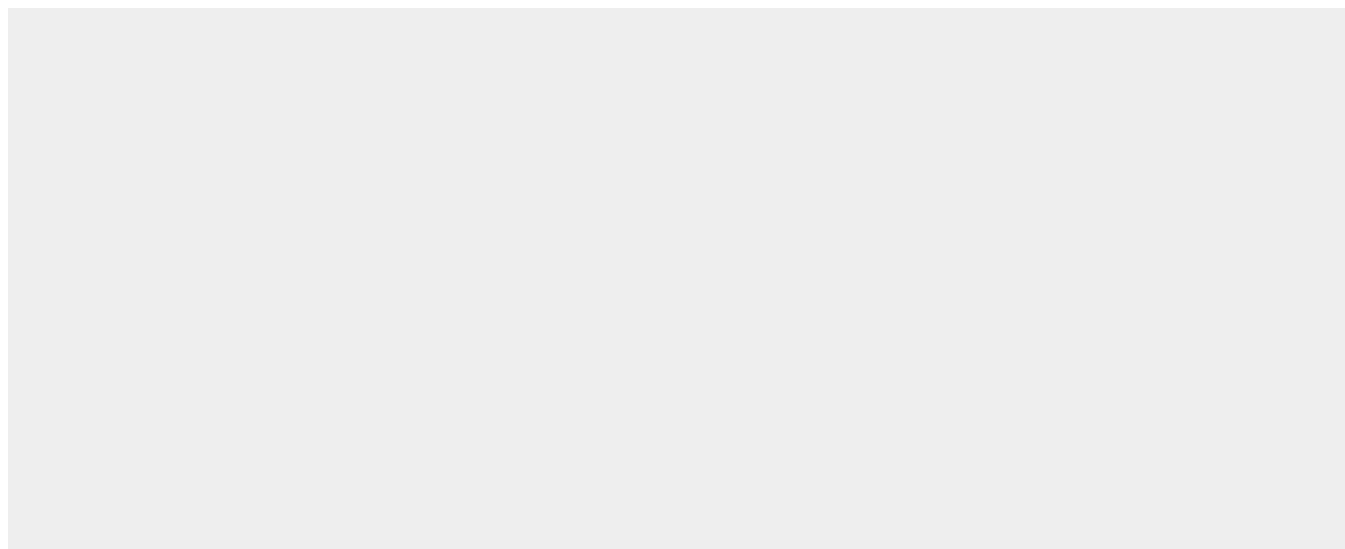
Nucleus. Cytoplasm, cytosol. Lysosome membrane. Note=Mainly present in the cytoplasm (PubMed:23434374, PubMed:33691586, PubMed:35662396). When nutrients are present, recruited to the lysosomal membrane via association with GDP- bound RagC/RRAGC (or RagD/RRAGD): it is then phosphorylated by MTOR (PubMed:23401004, 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)

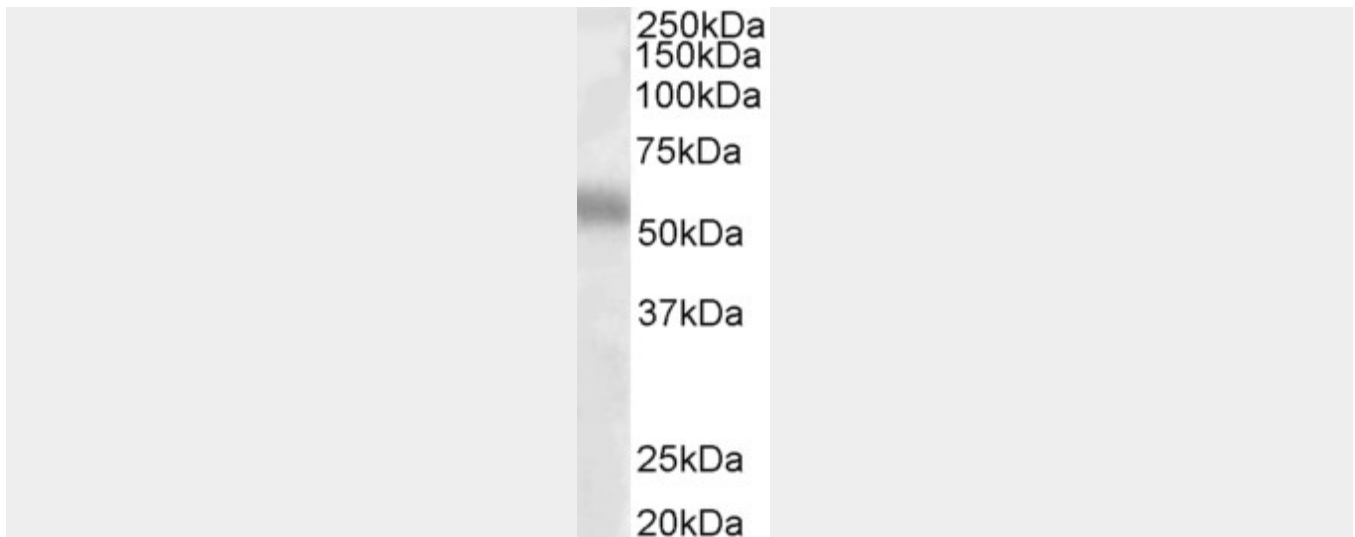
Goat Anti-TFEB (internal) Antibody - Protocols

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](#)

Goat Anti-TFEB (internal) Antibody - Images





AF2080a (1 µg/ml) staining of Human Lung lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

Goat Anti-TFEB (internal) Antibody - References

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Cathepsin-K immunoreactivity distinguishes MiTF/TFE family renal translocation carcinomas from other renal carcinomas. Martignoni G, et al. Mod Pathol, 2009 Aug. PMID 19396149.

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