

Goat Anti-TFEB (N Terminus) Antibody
Peptide-affinity purified goat antibody
Catalog # AF2080b**Specification**

Goat Anti-TFEB (N Terminus) Antibody - Product Information

Application	WB, Pep-ELISA
Primary Accession	P19484
Other Accession	NP_009093 , 7942 , 21425 (mouse)
Reactivity	Human
Predicted	Mouse, Rat, Pig, Dog
Host	Goat
Clonality	Polyclonal
Concentration	0.5mg/ml
Isotype	IgG
Calculated MW	52865

Goat Anti-TFEB (N Terminus) Antibody - Additional Information**Gene ID** 7942**Other Names**

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

Dilution

WB~~1:1000

Pep-ELISA~~N/A

Format

0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

Goat Anti-TFEB (N Terminus) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-TFEB (N Terminus) Antibody - 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: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 MTF (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 ACS2, promotes the expression of genes involved in lysosome biogenesis and both autophagy upon glucose deprivation (PubMed:28552616).

Cellular Location

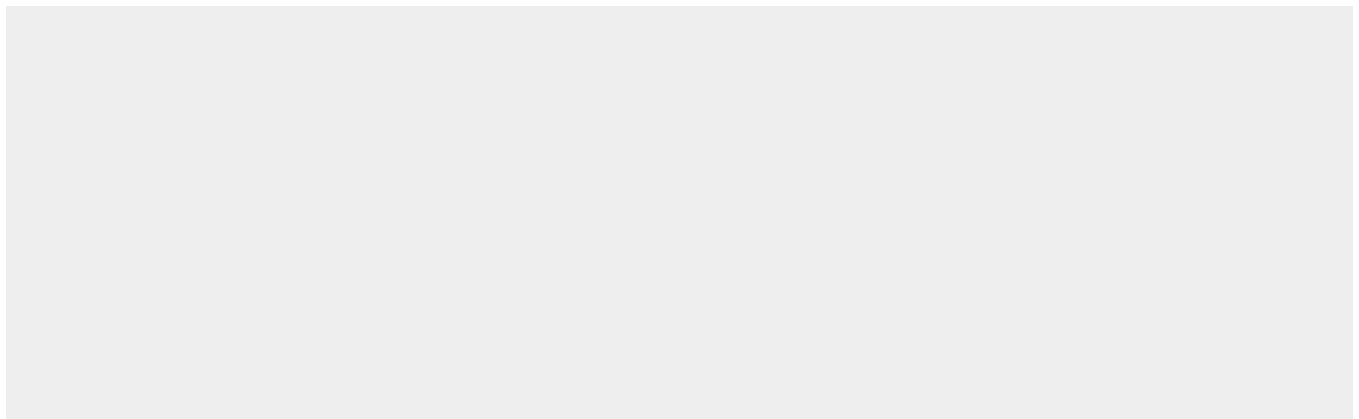
Nucleus. Cytoplasm, cytosol. Lysosome membrane. Note=Mainly present in the cytoplasm (PubMed:23434374, PubMed:33691586, PubMed:35662396). When nutrients are present, recruited to the lysosomal membrane via association with GDP-bound RagC/RRAGC (or RagD/RRAGD): it is then phosphorylated by MTOR (PubMed:23401004,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

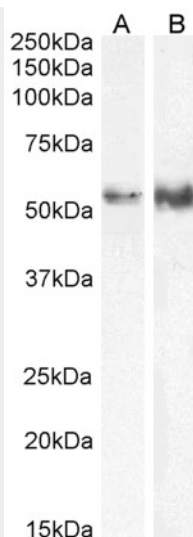
Goat Anti-TFEB (N Terminus) Antibody - Protocols

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

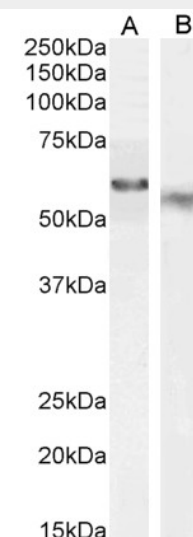
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Goat Anti-TFEB (N Terminus) Antibody - Images





AF2080b (0.5 $\mu\text{g/ml}$) staining of HeLa (A) and (0.3 $\mu\text{g/ml}$) Jurkat (B) cell lysate (35 μg protein in RIPA buffer). Detected by chemiluminescence.



EB05425 (0.3 $\mu\text{g/ml}$) staining of Daudi (A) and (0.5 $\mu\text{g/ml}$) HepG2 (B) cell lysate (35 μg protein in RIPA buffer). Detected by chemiluminescence.



EB05425 (1.0µg/ml) staining of Human Thymus lysate (35µg protein in RIPA buffer). Detected by chemiluminescence.

Goat Anti-TFEB (N Terminus) Antibody - References

A gene network regulating lysosomal biogenesis and function. Sardiello M, et al. Science, 2009 Jul 24. PMID 19556463. Cathepsin-K immunoreactivity distinguishes MiTF/TFE family renal translocation carcinomas from other renal carcinomas. Martignoni G, et al. Mod Pathol, 2009 Aug. PMID 19396149. Molecular genetics of adult ADHD: converging evidence from genome-wide association and extended pedigree linkage studies. Lesch KP, et al. J Neural Transm, 2008 Nov. PMID 18839057. Characterization of t(6;11)(p21;q12) in a renal-cell carcinoma of an adult patient. Pecciarini L, et al. Genes Chromosomes Cancer, 2007 May. PMID 17285572. Renal carcinomas with the t(6;11)(p21;q12): clinicopathologic features and demonstration of the specific alpha-TFEB gene fusion by immunohistochemistry, RT-PCR, and DNA PCR. Argani P, et al. Am J Surg Pathol, 2005 Feb. PMID 15644781.