

TFE3 Antibody (N-Term)

Peptide-affinity purified goat antibody Catalog # AF2261a

Specification

TFE3 Antibody (N-Term) - Product Information

Application WB, E
Primary Accession P19532

Other Accession <u>NP_006512.2</u>, <u>7030</u>

Reactivity Human
Predicted Mouse, Dog
Host Goat

Clonality Polyclonal Concentration 0.5 mg/ml

Isotype IgG Calculated MW 61521

TFE3 Antibody (N-Term) - Additional Information

Gene ID 7030

Other Names

Transcription factor E3, Class E basic helix-loop-helix protein 33, bHLHe33, TFE3, BHLHE33

Dilution

WB~~1:1000 E~~N/A

Format

0.5 mg/ml in Tris saline, 0.02% sodium azide, pH7.3 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

TFE3 Antibody (N-Term) is for research use only and not for use in diagnostic or therapeutic procedures.

TFE3 Antibody (N-Term) - Protein Information

Name TFE3 {ECO:0000303|PubMed:9393982, ECO:0000312|HGNC:HGNC:11752}

Function

Transcription factor that acts as a master regulator of lysosomal biogenesis and immune response (PubMed:2338243, PubMed:24448649,



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PubMed:29146937, PubMed:30733432, PubMed: 31672913, 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 TFEB or MITF (PubMed: 24448649). Involved in the cellular response to amino acid availability by acting downstream of MTOR: in the presence of nutrients, TFE3 phosphorylation by MTOR promotes its inactivation (PubMed: <a $href="http://www.uniprot.org/citations/24448649" target="_blank">24448649, PubMed:31672913, PubMed:36608670). Upon starvation or lysosomal stress, inhibition of MTOR induces TFE3 dephosphorylation, resulting in transcription factor activity (PubMed:24448649, PubMed:31672913, PubMed:36608670). 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: 24448649). Maintains the pluripotent state of embryonic stem cells by promoting the expression of genes such as ESRRB; mTOR- dependent TFE3 cytosolic retention and inactivation promotes exit from pluripotency (By similarity). Required to maintain the naive pluripotent state of hematopoietic stem cell; mTOR-dependent cytoplasmic retention of TFE3 promotes the exit of hematopoietic stem cell from pluripotency (PubMed: 30733432). TFE3 activity is also involved in the inhibition of neuronal progenitor differentiation (By similarity). Acts as a positive regulator of browning of adipose tissue by promoting expression of target genes; mTOR-dependent phosphorylation promotes cytoplasmic retention of TFE3 and inhibits browning of adipose tissue (By similarity). In association with TFEB, 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 MUE3 box, a subset of E-boxes, present in the immunoglobulin enhancer (PubMed: 2338243). It also binds very well to a USF/MLTF site (PubMed:2338243). Promotes TGF-beta-induced transcription of COL1A2; via its interaction with TSC22D1 at E-boxes in the gene proximal promoter (By similarity). May regulate lysosomal positioning in response to nutrient deprivation by promoting the expression of PIP4P1 (PubMed: 29146937).

Cellular Location

Cytoplasm, cytosol. Nucleus. Lysosome membrane. Note=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:24448649, PubMed:37079666). Phosphorylation by MTOR prevents nuclear translocation and promotes ubiquitination and degradation (PubMed:22692423, PubMed:30733432, PubMed:36608670, PubMed:37079666) Conversely, inhibition of mTORC1, starvation and lysosomal disruption, promotes dephosphorylation and translocation to the nucleus (PubMed:22692423, PubMed:30733432, PubMed:37079666)

Tissue Location

Ubiquitous in fetal and adult tissues.

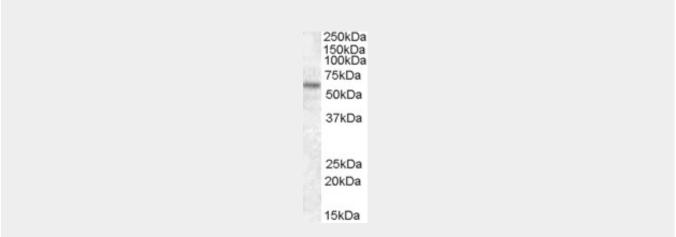
TFE3 Antibody (N-Term) - Protocols

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



- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

TFE3 Antibody (N-Term) - Images



AF2261a (1 μ g/ml) staining of HEK293 lysate (35 μ g protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

TFE3 Antibody (N-Term) - References

The gene encoding human TFE3, a transcription factor that binds the immunoglobulin heavy-chain enhancer, maps to Xp11.22. Henthorn PS, Stewart CC, Kadesch T, Puck JM. Genomics. 1991 Oct;11(2):374-8. PMID: 1685140