

**TFE3 Antibody (N-Term)**  
**Peptide-affinity purified goat antibody**  
**Catalog # AF2261a****Specification**

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**TFE3 Antibody (N-Term) - Product Information**

Application	WB
Primary Accession	<a href="#">P19532</a>
Other Accession	<a href="#">NP_006512.2</a> , <a href="#">7030</a>
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

**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:<a href="http://www.uniprot.org/citations/2338243" target="\_blank">2338243</a>, PubMed:<a href="http://www.uniprot.org/citations/24448649" target="\_blank">24448649</a>, PubMed:<a href="http://www.uniprot.org/citations/29146937" target="\_blank">29146937</a>, PubMed:<a href="http://www.uniprot.org/citations/30733432" target="\_blank">30733432</a>, PubMed:<a href="http://www.uniprot.org/citations/31672913" target="\_blank">31672913</a>, PubMed:<a href="http://www.uniprot.org/citations/37079666" target="\_blank">37079666</a>).

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:<a href="http://www.uniprot.org/citations/24448649" target="\_blank">24448649</a>). 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</a>, PubMed:<a href="http://www.uniprot.org/citations/31672913" target="\_blank">31672913</a>, PubMed:<a href="http://www.uniprot.org/citations/36608670" target="\_blank">36608670</a>). Upon starvation or lysosomal stress, inhibition of MTOR induces TFE3 dephosphorylation, resulting in transcription factor activity (PubMed:<a href="http://www.uniprot.org/citations/24448649" target="\_blank">24448649</a>, PubMed:<a href="http://www.uniprot.org/citations/31672913" target="\_blank">31672913</a>, PubMed:<a href="http://www.uniprot.org/citations/36608670" target="\_blank">36608670</a>). 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:<a href="http://www.uniprot.org/citations/24448649" target="\_blank">24448649</a>). 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:<a href="http://www.uniprot.org/citations/30733432" target="\_blank">30733432</a>). 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:<a href="http://www.uniprot.org/citations/2338243" target="\_blank">2338243</a>). It also binds very well to a USF/MLTF site (PubMed:<a href="http://www.uniprot.org/citations/2338243" target="\_blank">2338243</a>). 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:<a href="http://www.uniprot.org/citations/29146937" target="\_blank">29146937</a>).

### 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 Cytometry](#)
- [Cell Culture](#)

#### **TFE3 Antibody (N-Term) - Images**



AF2261a (1 µg/ml) staining of HEK293 lysate (35 µg 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