

# TFE3 Antibody

Rabbit mAb

Catalog # AP92080

## Product Information

<b>Application</b>	IHC, IF, FC, ICC, IHF
<b>Primary Accession</b>	<a href="#">P19532</a>
<b>Reactivity</b>	Human
<b>Clonality</b>	Monoclonal
<b>Other Names</b>	bHLHe33; RCCP2; RCCX1; Tcfe3; Tfe3; TFEA;
<b>Isotype</b>	Rabbit IgG
<b>Host</b>	Rabbit
<b>Calculated MW</b>	61521

## Additional Information

<b>Dilution</b>	IHC 1:50~1:200 ICC/IF 1:50~1:100 FC 1:50
<b>Purification</b>	Affinity-chromatography
<b>Immunogen</b>	A synthesized peptide derived from human TFE3
<b>Description</b>	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 TFEB or MITF. 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.
<b>Storage Condition and Buffer</b>	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

## Protein Information

<b>Name</b>	TFE3 {ECO:0000303   PubMed:9393982, ECO:0000312   HGNC:HGNC:11752}
<b>Function</b>	Transcription factor that acts as a master regulator of lysosomal biogenesis and immune response (PubMed: <a href="#">2338243</a> , PubMed: <a href="#">24448649</a> , PubMed: <a href="#">29146937</a> , PubMed: <a href="#">30733432</a> , PubMed: <a href="#">31672913</a> , PubMed: <a href="#">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="#">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="#">24448649</a> , PubMed: <a href="#">31672913</a> , PubMed: <a href="#">36608670</a> ). Upon starvation or lysosomal stress, inhibition of MTOR induces TFE3 dephosphorylation, resulting in transcription factor activity (PubMed: <a href="#">24448649</a> , PubMed: <a href="#">31672913</a> , PubMed: <a href="#">36608670</a> ). Specifically recognizes and binds the CLEAR-box sequence (5'-GTACGTGAC-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.

## Images

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Image not found : 202311/AP92080-IHC.jpg

Immunohistochemical analysis of paraffin-embedded human bladder, using TFE3 Antibody.

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