

Anti-TFE3 Monoclonal Antibody

Catalog # ABO14769

Product Information

Application	IHC, IF, ICC, FC
Primary Accession	P19532
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Human
Clonality	Monoclonal
Format	Liquid
Description	Anti-TFE3 Monoclonal Antibody . Tested in IHC, ICC/IF, Flow Cytometry applications. This antibody reacts with Human.

Additional Information

Gene ID	7030
Other Names	Transcription factor E3, Class E basic helix-loop-helix protein 33, bHLHe33, TFE3 {ECO:0000303 PubMed:9393982, ECO:0000312 HGNC:HGNC:11752}
Calculated MW	61521
Application Details	IHC 1:50-1:200 ICC/IF 1:50-1:100 FC 1:50
Source	Eukaryota
Contents	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
Clone Names Immunogen	Clone: AFHC-20 A synthesized peptide derived from human TFE3
Purification	Affinity-chromatography
Storage	Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

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 , 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:[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

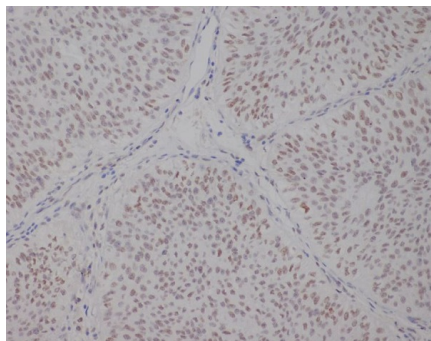
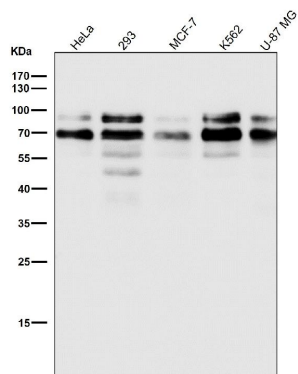
Cytoplasm, cytosol. Nucleus. Lysosome membrane. Note=When nutrients are present, recruited to the lysosomal membrane via association with GDP-bound RagC/RRAGC (or RagD/RRAGD): it is then phosphorylated by MTOR (PubMed:[24448649](#), PubMed:[37079666](#)). Phosphorylation by MTOR prevents nuclear translocation 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.

Images

All lanes use the Antibody at 1:1K dilution for 1 hour at room temperature.



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

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.