Recombinant Mouse Tfe3 Protein, Myc/DDK-tagged

Cat. No. Tfe3-6378M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Purified recombinant protein of mouse full-length transcription factor E3 (Tfe3), with C-terminal MYC/DDK tag, expressed in HEK293T cells.
Species	Mouse
Source	HEK293
Description	Transcription factor that acts as a master regulator of lysosomal biogenesis and immune response. 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. 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 cytosolic retention and subsequent inactivation. Upon starvation or lysosomal stress, inhibition of MTOR induces TFE3 dephosphorylation, resulting in nuclear localization and transcription factor activity. 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. Specifically recognizes the MUE3 box, a subset of E-boxes, present in the immunoglobulin enhancer. It also binds very well to a USF/MLTF site. May regulate lysosomal positioning in response to nutrient deprivation by promoting the expression of PIP4P1. 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. Maintains the pluripotent state of embryonic stem cells by

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	promoting the expression of genes such as ESRRB; mTOR-dependent nuclear exclusion promotes exit from pluripotency. 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.
Molecular Mass	61.9 kDa
Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining
Stability	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
Storage	Store at -80 centigrade after receiving vials.
Concentration	>50 μg/mL as determined by microplate BCA method
Storage Buffer	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

GENE INFORMATION

Gene Name	Tfe3 transcription factor E3 [Mus musculus (house mouse)]
Official Symbol	Tfe3
Synonyms	TFE3; transcription factor E3; Tcfe3; Tfe-3; bHLHe33; AI851540; F830016E06Rik
Gene ID	209446
mRNA Refseq	NM_172472
Protein Refseq	NP_766060

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UniProt ID	Q64092

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