

MiTF Antibody
Rabbit mAb
Catalog # AP91092

Specification

MiTF Antibody - Product Information

Application	WB
Primary Accession	O75030
Reactivity	Rat
Clonality	Monoclonal
Other Names	
Microphthalmia-associated transcription factor; Class E basic helix-loop-helix protein 32; bHLHe32; MITF; BHLHE32;	
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	58795 Da

MiTF Antibody - Additional Information

Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human MiTF
Description	Microphthalmia-associated transcription factor (MITF) is a basic helix-loop-helix leucine zipper transcription factor that is most widely known for its roles in melanocyte, ophthalmic, and osteoclast development. Plays a critical role in the differentiation of various cell types as neural crest-derived melanocytes, mast cells, osteoclasts and optic cup-derived retinal pigment epithelium.
Storage Condition and Buffer	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.

MiTF Antibody - Protein Information

Name MITF {ECO:0000303|PubMed:8069297, ECO:0000312|HGNC:HGNC:7105}

Function

Transcription factor that acts as a master regulator of melanocyte survival and differentiation as well as melanosome biogenesis (PubMed: [10587587](http://www.uniprot.org/citations/10587587) target="_blank">10587587, PubMed: [22647378](http://www.uniprot.org/citations/22647378) target="_blank">22647378, PubMed: [27889061](http://www.uniprot.org/citations/27889061) target="_blank">27889061, PubMed: [9647758](http://www.uniprot.org/citations/9647758) target="_blank">9647758)

target="_blank">9647758). Binds to M-boxes (5'-TCATGTG-3') and symmetrical DNA sequences (E-boxes) (5'-CACGTG-3') found in the promoter of pigmentation genes, such as tyrosinase (TYR) (PubMed:10587587, PubMed:22647378, PubMed:27889061, PubMed:9647758). Involved in the cellular response to amino acid availability by acting downstream of MTOR: in the presence of nutrients, MITF phosphorylation by MTOR promotes its inactivation (PubMed:36608670). Upon starvation or lysosomal stress, inhibition of MTOR induces MITF dephosphorylation, resulting in transcription factor activity (PubMed:36608670). Plays an important role in melanocyte development by regulating the expression of tyrosinase (TYR) and tyrosinase-related protein 1 (TYRP1) (PubMed:10587587, PubMed:22647378, PubMed:27889061, PubMed:9647758). Plays a critical role in the differentiation of various cell types, such as neural crest-derived melanocytes, mast cells, osteoclasts and optic cup-derived retinal pigment epithelium (PubMed:10587587, PubMed:22647378, PubMed:27889061, PubMed:9647758).

Cellular Location

Nucleus. Cytoplasm. 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:23401004, PubMed:36608670) Phosphorylation by MTOR promotes ubiquitination and degradation (PubMed:36608670). Conversely, inhibition of mTORC1, starvation and lysosomal disruption, promotes dephosphorylation and translocation to the nucleus (PubMed:36608670). Phosphorylation by MARK3/CTAK1 promotes association with 14-3-3/YWHA adapters and retention in the cytosol (PubMed:16822840).

Tissue Location

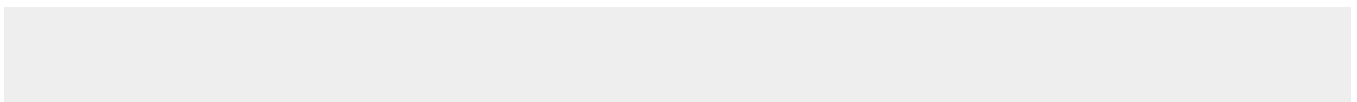
Expressed in melanocytes (at protein level). [Isoform C2]: Expressed in the kidney and retinal pigment epithelium. [Isoform H2]: Expressed in the kidney. [Isoform Mdel]: Expressed in melanocytes.

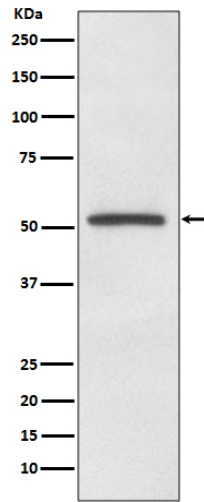
MITF Antibody - Protocols

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](#)

MITF Antibody - Images





Western blot analysis of MiTF expression in A375 cell lysate.