

MiTF
Mouse Monoclonal antibody(Mab)
Catalog # AD80515

Specification

MiTF - Product info

Application	IHC-P
Primary Accession	075030
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Calculated MW	58795

MiTF - Additional info

Gene ID **4286**

Other Names

Microphthalmia-associated transcription factor, Class E basic helix-loop-helix protein 32, bHLHe32, MITF, BHLHE32

Dilution

IHC-P~~Ready-to-use

Storage

Maintain refrigerated at 2-8°C

MiTF - 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](#), PubMed:[22647378](#), PubMed:[27889061](#), PubMed:[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

Cellular Location

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](#)). 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). 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.

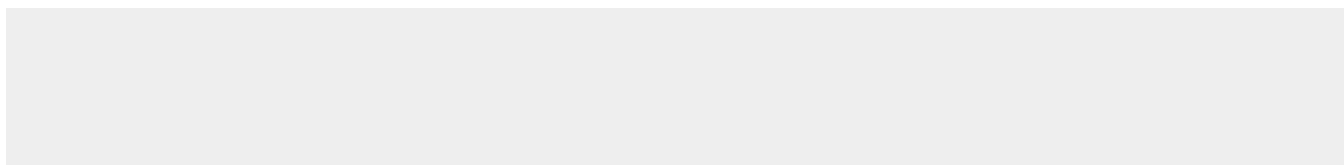
Tissue Location

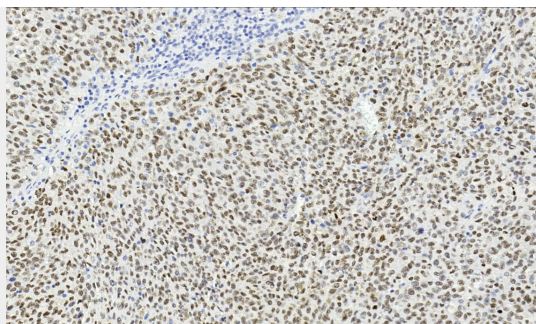
MITF - Protocols

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 - Images





Melanoma