

**MiTF Rabbit mAb**  
Catalog # AP75720**Specification**

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**MiTF Rabbit mAb - Product Information**

|                   |                            |
|-------------------|----------------------------|
| Application       | <b>WB</b>                  |
| Primary Accession | <a href="#">O75030</a>     |
| Reactivity        | <b>Human, Hamster</b>      |
| Host              | <b>Rabbit</b>              |
| Clonality         | <b>Monoclonal Antibody</b> |
| Calculated MW     | <b>58795</b>               |

**MiTF Rabbit mAb - Additional Information****Gene ID** 4286**Other Names**  
MITF**Dilution**  
WB~~1/500-1/1000**Format**  
Liquid**MiTF Rabbit mAb - 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) [22647378](http://www.uniprot.org/citations/22647378) [27889061](http://www.uniprot.org/citations/27889061) [9647758](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/10587587) [22647378](http://www.uniprot.org/citations/22647378) [27889061](http://www.uniprot.org/citations/27889061) [9647758](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/36608670)). Upon starvation or lysosomal stress, inhibition of MTOR induces MITF dephosphorylation, resulting in transcription factor activity (PubMed: [36608670](http://www.uniprot.org/citations/36608670)). Plays an important role in melanocyte development by regulating the expression of tyrosinase (TYR) and

tyrosinase-related protein 1 (TYRP1) (PubMed:<a href="http://www.uniprot.org/citations/10587587" target="\_blank">10587587</a>, PubMed:<a href="http://www.uniprot.org/citations/22647378" target="\_blank">22647378</a>, PubMed:<a href="http://www.uniprot.org/citations/27889061" target="\_blank">27889061</a>, PubMed:<a href="http://www.uniprot.org/citations/9647758" target="\_blank">9647758</a>). 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:<a href="http://www.uniprot.org/citations/10587587" target="\_blank">10587587</a>, PubMed:<a href="http://www.uniprot.org/citations/22647378" target="\_blank">22647378</a>, PubMed:<a href="http://www.uniprot.org/citations/27889061" target="\_blank">27889061</a>, PubMed:<a href="http://www.uniprot.org/citations/9647758" target="\_blank">9647758</a>).

### 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 Rabbit mAb - 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 Rabbit mAb - Images



