

# Anti-MITF Antibody (aa150-427, clone ABM1H91)

Mouse Anti Human Monoclonal Antibody

Catalog # ALS17391

## Product Information

|                       |                        |
|-----------------------|------------------------|
| Application           | WB, IHC-P              |
| Primary Accession     | <a href="#">O75030</a> |
| Predicted             | Human, Mouse           |
| Host                  | Mouse                  |
| Clonality             | Monoclonal             |
| Isotype               | IgG1,k                 |
| Clone Names           | ABM1H91                |
| Calculated MW         | 58795                  |
| Concentration (mg/ml) | 0.5 mg/ml              |

## Additional Information

|                          |                                                                                                                                 |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Gene ID                  | 4286                                                                                                                            |
| Alias Symbol             | MITF                                                                                                                            |
| Other Names              | MITF, BHLHe32, CMM8, MI, Waardenburg syndrome, type 2A, WS2, WS2A                                                               |
| Reconstitution & Storage | PBS, 0.05% sodium azide. Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze-thaw cycles.               |
| Precautions              | Anti-MITF Antibody (aa150-427, clone ABM1H91) is for research use only and not for use in diagnostic or therapeutic procedures. |

## 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: <a href="#">10587587</a> , PubMed: <a href="#">22647378</a> , PubMed: <a href="#">27889061</a> , PubMed: <a href="#">9647758</a> ). 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: <a href="#">10587587</a> , PubMed: <a href="#">22647378</a> , PubMed: <a href="#">27889061</a> , PubMed: <a href="#">9647758</a> ). 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: <a href="#">36608670</a> ). Upon starvation or lysosomal stress, inhibition of MTOR induces MITF dephosphorylation, resulting in transcription factor activity (PubMed: <a href="#">36608670</a> ). Plays an important role in melanocyte development by regulating the expression of tyrosinase (TYR) and tyrosinase-related protein 1 (TYRP1) (PubMed: <a href="#">10587587</a> , PubMed: <a href="#">22647378</a> , PubMed: <a href="#">27889061</a> , |

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.

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