

# MITF Polyclonal Antibody

Catalog # AP70952

## Product Information

|                   |                        |
|-------------------|------------------------|
| Application       | WB, IHC-P, IF          |
| Primary Accession | <a href="#">O75030</a> |
| Reactivity        | Human, Mouse           |
| Host              | Rabbit                 |
| Clonality         | Polyclonal             |
| Calculated MW     | 58795                  |

## Additional Information

|                    |   |
|--------------------|---|
| Gene ID            | 4286  |
| Other Names        | MITF; BHLHE32; Microphthalmia-associated transcription factor; Class E basic helix-loop-helix protein 32; bHLHe32   |
| Dilution           | WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. Immunofluorescence: 1/200 - 1/1000. ELISA: 1/10000. Not yet tested in other applications. IHC-P~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. Immunofluorescence: 1/200 - 1/1000. ELISA: 1/10000. Not yet tested in other applications. IF~~1:50~200 |
| Format             | Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.   |
| Storage Conditions | -20°C   |

## 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).

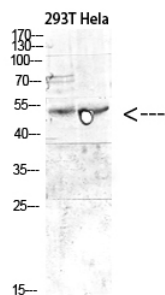
## Tissue Location

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.

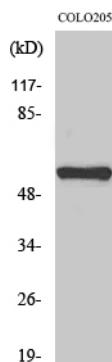
## Background

Transcription factor that regulates the expression of genes with essential roles in cell differentiation, proliferation and survival. Binds to M-boxes (5'-TCATGTG-3') and symmetrical DNA sequences (E-boxes) (5'-CACGTG-3') found in the promoters of target genes, such as BCL2 and tyrosinase (TYR). Plays an important role in melanocyte development by regulating the expression of tyrosinase (TYR) and tyrosinase-related protein 1 (TYRP1). 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.

## Images

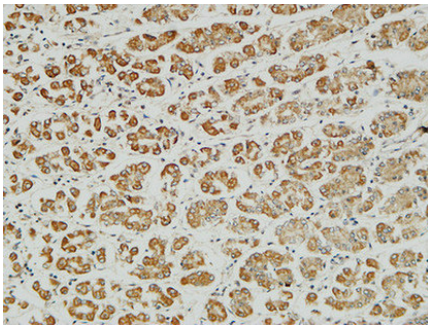


Western Blot analysis of hela cells using primary antibody diluted at 1:500. cells nucleus extracted by Minute TM Cytoplasmic and Nuclear Fractionation kit (SC-003, Invent biotech, MN, USA).

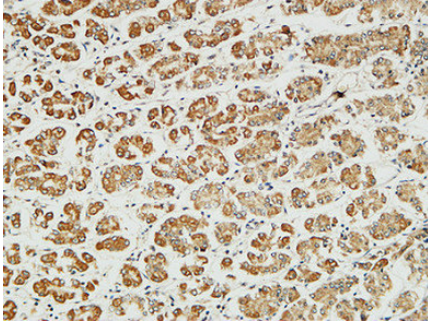


Western Blot analysis of various cells using MITF Polyclonal Antibody diluted at 1 : 500 cells nucleus extracted by Minute TM Cytoplasmic and Nuclear Fractionation kit (SC-003, Invent biotech, MN, USA).

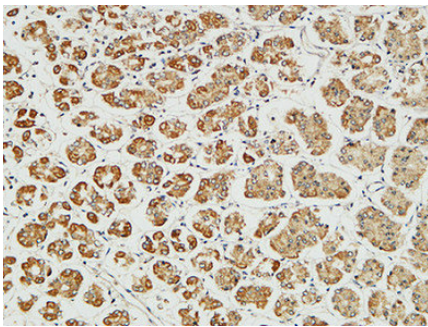
Immunohistochemical analysis of paraffin-embedded Human stomach. 1, Antibody was diluted at



1:200(4°,overnight). 2, High-pressure and temperature EDTA, pH8.0 was used for antigen retrieval. 3,Secondary antibody was diluted at 1:200(room temperature, 30min).



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