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Inspiration for Life Science

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Catalog No. 73-107EX

Anti-MiTF antibody, rabbit serum, ChIP grade

BACKGROUND

Mitf (Microphthalmia-associated transcription factor) is a transcription factor that contains both basic helix-loop-helix and leucine zipper structural features. It 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. Mutations in **Mitf** cause auditory-pigmentary syndromes, such as Waardenburg syndrome type 2 and Tietz syndrome. Alternatively spliced transcript variants encoding different isoforms have been identified.

The antibody was produced by immunizing rabbit with recombinant human **Mitf** protein in the laboratory of Prof. H. Yamamoto.

Applications:

1. Western blotting (1/5,000:Different splicing isoforms detected).
2. Immunohistochemistry (1/300 ~ 1/1,000).
3. Immunocytochemistry.
4. ChIP (1/200: Users should examine the best conditions which depend on samples and the ways of extract preparation)

Immunogen: Recombinant full-size human Mitf protein with His tag

Specificity: Specific to human, mouse, chicken and Xenopus Mitf. Especially it works well with the eye.

Size: 100 uL

Form: Antiserum added with 0.05% sodium azide

Storage: shipped at 4℃ or -20℃, and upon arrival, aliquot and store at -20℃ or below

Data Link: UniProtKB/Swiss-Prot human**:** **O75030** (MITF_HUMAN), mouse: **Q08874** (MITF_MOUSE), chicken: **O73871** (O73871_CHICK), Xenopus: **A4IID0** (A4IID0_XENTR), OMIM (human): **156845**

References: This antibody was used in the following references.

1. Tsukiji N *et al* “Mitf functions as an in ovo regulator for cell differentiation and proliferation during development of the chick RPE.” *Dev Biol* **326**: 335-346 (2009) PMID: 19100253 **IHC, ChIP,** Open Access
2. Delmas V *et al* “β-Catenin induces immortalization of melanocytes by suppressing p16INK4a expression and co-operates with N-Ras in melanoma development.” *Genes Dev* **21**: 2923-2935 (2007) PMID: 18006687 **IF,** Open Access
3. Osawa M *et al* “Molecular characterization of melanocyte stem cells in their niche.”*Development* **132**: 5589-5599 (2005) PMID: 16314490 **IHC,** Free Article

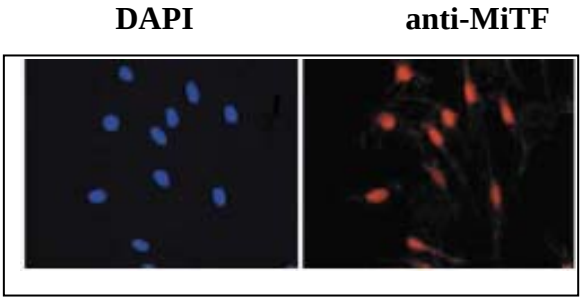

Fig.1 Immunofluorescence staining of melanocytes.

Mouse primary melanocytes 6 weeks after explantation was processed for immunofluorescence microscopy using anti-MiTF antibody and DAPI

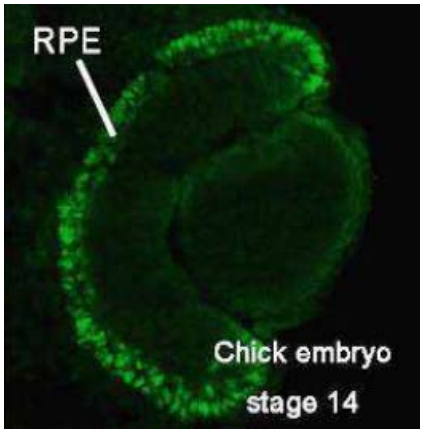

Fig.2 Immunohistochemical staining of Mitf in chick embrio at stage 14.

Embrio was fixed with paraformaldehyde and embedded in OCT compound and sectioned with a cryostat at 8 μm. Anti-MiTF antibody was used at 1/300 dilution. As second antibody, Alexa 488 conjugated anti-rabbit IgG was used.

At stage 14, Mitif protein is detected throughout the RPE (Retinal Pigment Epithelium).

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