SANTA CRUZ BIOTECHNOLOGY, INC.

MITF (H-50): sc-25386

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

MITF (microphthalmia-associated transcription factor) is a melanocytic nuclear protein that contains basic helix-loop-helix (HLH) and leucine zipper (LZ) domains. These protein motifs are frequently observed in other transcription factors and are particularly common to members of the Myc family. MITF can directly associate with DNA as a homodimer. It is required for the development and differentiation of melanocytes. Its expression is upregulated by cAMP and cAMP dependent pathways. MITF activates several different gene promoters by binding to their E-boxes. Tyrosinase, TRP-1 and TRP-2 are pigment synthesis genes activated by MITF. When MITF is phosphorylated on Serine 73 (via the MAPK pathway), it associates with coactivators of the p300/CBP family and enhances transcription. MITF has several isoforms including MITF-M which is specifically expressed in melanocytes. In Mitf-deficient mice there is a complete absence of melanocytes.

CHROMOSOMAL LOCATION

Genetic locus: MITF (human) mapping to 3p14.1; Mitf (mouse) mapping to 6 D3.

SOURCE

MITF (H-50) is a rabbit polyclonal antibody raised against amino acids 431-480 of MITF of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-25386 X, 200 µg/0.1 ml.

APPLICATIONS

MITF (H-50) is recommended for detection of MITF of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MITF (H-50) is also recommended for detection of MITF in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MITF siRNA (h): sc-35934, MITF siRNA (m): sc-35935, MITF shRNA Plasmid (h): sc-35934-SH, MITF shRNA Plasmid (m): sc-35935-SH, MITF shRNA (h) Lentiviral Particles: sc-35934-V and MITF shRNA (m) Lentiviral Particles: sc-35935-V.

MITF (H-50) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of MITF: 60 kDa.

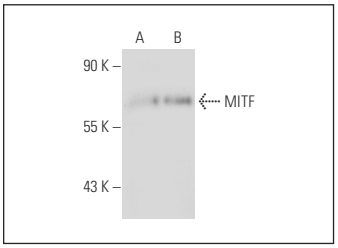
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



MITF (H-50): sc-25386. Western blot analysis of MITF expression in non-transfected: sc-117752 (**A**) and human MITF transfected: sc-113752 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Lee, J., et al. 2007. Diosgenin inhibits melanogenesis through the activation of phosphatidylinositol-3-kinase pathway (PI3K) signaling. Life Sci. 81: 249-254.
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3. Huang, H.C., et al. 2011. Inhibitory effect of [6]-gingerol on melanogenesis in B16F10 melanoma cells and a possible mechanism of action. Biosci. Biotechnol. Biochem. 75: 1067-1072.
4. Lee, S.A., et al. 2011. Ascorbic acid increases the activity and synthesis of tyrosinase in B16F10 cells through activation of p38 mitogen-activated protein kinase. Arch. Dermatol. Res. 303: 669-678.
5. Terragni, J., et al. 2011. The E-box binding factors Max/Mnt, MITF, and USF1 act coordinately with FoxO to regulate expression of proapoptotic and cell cycle control genes by phosphatidylinositol 3-kinase/Akt/glycogen synthase kinase 3 signaling. J. Biol. Chem. 286: 36215-36227.
6. Hie, M., et al. 2011. Zinc deficiency decreases osteoblasts and osteoclasts associated with the reduced expression of Runx2 and RANK. Bone 49: 1152-1159.
7. Son, Y.O., et al. 2011. Acteoside inhibits melanogenesis in B16F10 cells through ERK activation and tyrosinase down-regulation. J. Pharm. Pharmacol. 63: 1309-1319.
8. Noguchi, S., et al. 2014. Analysis of microRNA-203 function in CREB/MITF/RAB27a pathway: comparison between canine and human melanoma cells. Vet. Comp. Oncol. E-published.