MITF (C5): sc-56725

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 and 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, TRP1 and TRP2 are pigment synthesis genes activated by MITF. When MITF is phosphorylated on Ser73 (via the MAPK pathway), it associates with co-activators of the p300/CMU 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.

REFERENCES


CHROMOSOMAL LOCATION

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

SOURCE

MITF (C5) is a mouse monoclonal antibody raised against an N-terminal fragment of MITF of human origin.

PRODUCT

Each vial contains 50 µg IgG1 in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MITF (C5) 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

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.

Molecular Weight of MITF: 60 kDa.

Positive Controls: MITF (h): 293T Lysate: sc-114536, C32 nuclear extract: sc-2136 or NIH/3T3 nuclear extract: sc-2138.

SELECT PRODUCT CITATIONS


STORAGE

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

DATA

MITF (C5): sc-56725. Western blot analysis of MITF expression in non-transfected: sc-117752 (A) and human MITF transfected: sc-114536 (B) 293T whole cell lysates.

RESEARCH USE

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