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/CREB 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 (4H205) is a mouse monoclonal antibody raised against amino acids 408-419 MITF of human origin.

PRODUCT

Each vial contains 100 µg IgG1 in 1.0 ml PBS with < 0.1% sodium azide and 0.05% BSA.

APPLICATIONS

MITF (4H205) is recommended for detection of MITF of mouse, rat, human, avian and Xenopus origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

MITF (4H205) is also recommended for detection of MITF in additional species, including equine, bovine and canine.

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: Jurkat nuclear extract: sc-2132, C32 nuclear extract: sc-2136 or NIH/3T3 nuclear extract: sc-2138.

DATA

SELECT PRODUCT CITATIONS


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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.