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- Diagnostik & molekulare Diagnostik
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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Microphthalmia Transcription Factor (MiTF). Mouse Monoclonal Antibody

MiTF

Background

In Western blotting, it recognizes a doublet of 52-56kDa, identified as serine-phosphorylated and unphosphorylated forms of melanocytic isoforms of microphthalmia (Mi) transcription factor. There are two known isoforms of MiTF differing by 66 amino acids at the NH2 terminus. Shorter forms are expressed in melanocytes and run as two bands at 52kDa and 56kDa, while the longer Mi form runs as a cluster of bands at 60-70kDa in osteoclasts and in B16 melonoma cells (but not other melanoma cell lines), as well as mast cells and heart. It reacts with both melanocytic as well as the non- melanocytic isoforms of MiTF. This Ab does not cross-react with other b-HLH-ZIP factors by DNA mobility shift assay. Mi is a basic helix-loop-helix-leucin zipper (b-HLH-ZIP) transtripotion factor implicated in pigmentation, mast cells and bone development. The mutation of MiTF causes Waardenburg Syndrome type II in humans. In mice, a profound loss of pigmented cells in the skin eye and inner ear results, as well as osteopetrosis and defects in natural killer and mast cells. These melanocyte isoforms have been shown by two dimensional tryptic mapping to differ in c-Kit-induced phosphorylation. Osteopetrotic rat strain harbors a large genomic deletion encompassing the 3' half of MiTF including most of the b-HLH-ZIP region. Osteoclasts from these animals lack MiTF protein in contrast to wild-type rat, mouse, and human osteoclasts.

Ordering Information

Catalog Number
X1405M

Size
100 µg

Form
Unconjugated

Host/Clone
Mouse Clone C5

Formulation
Provided as solution in phosphate buffered saline with 0.08% sodium azide

Concentration
See vial for concentration

Isotype
IgG1

Applications
Gel Supershift, Western Blot, Immunoprecipitation, Immunohistochemistry (Frozen & Paraffin Sections)

Species Reactivity
Human, Mouse, Rat

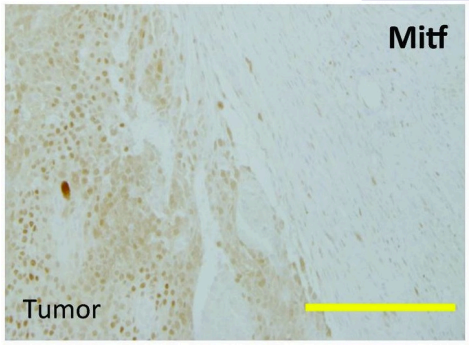
Accession Number

Human	O75030

Immunogen

Hybridoma produced by the fusion of splenocytes from RBF/DnJ mice immunized with an N-terminal fragment of human microphthalmia protein and mouse myeloma NS1 cells.

Immunohistochemical staining using microphthalmia antibody on formalin-fixed, paraffin embedded EWS/ATF1-induced tumor cells (scale bar 100 µm). (Image modified from original taken from product specific reference 2)



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Positive Control/Tissue Expression

501 Mel human melanoma cells, wild-type human, rat, mouse osteoclast cells

Comments

This antibody can be used for gel supershift assays, immunoprecipitation (2 μg/mg of protein lysate), Western blotting (1 μg/ml) and immunohistochemistry on frozen and formalin/paraffin tissue sections. Optimal concentration should be evaluated by serial dilutions.

Purification

Protein A/G Chromatography

Ship Conditions

Ship at ambient temperature, freeze upon arrival

Storage Customer

Product should be stored at -20ºC. Aliquot to avoid freeze/thaw cycles

Stability

Products are stable for one year from purchase when stored properly

References

1. Weilbaecher KN, et. al. Age-resolving osteopetrosis: a rat model implicating microphthalmia and the related transcription factor TFE3. J. Exp.Med. 1998, 187: 775-785
2. Hemesath P, et. al. MAP kinase links the transcription factor microphthalmia to c-Kit signalling in melanocytes. Nature. 1998, 391:298-301

Product Specific References

1. Tshori, S., et al, 'Transcription factor MITF regulates cardiac growth and hypertrophy' Journal of Clinical Investigation 2006, 116, , 2673-2681
2. Yamada, K., et al. 'EWS/ATF1 expression induces sarcomas from neural crest–derived cells in mice.' J. Clin. Invest., 123, 600-610 (2013)
3. Hagglund, A.-C., et al. 'Canonical Wnt/β-Catenin Signalling Is Essential for Optic Cup Formation.' PLoS One, 8, e81158 (2013)
4. Nakano, T., et al. 'Self-formation of optic cups and storable stratified neural retina from human ESCs.' Cell Stem Cell (2012) 10, 771-785

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