

Microphthalmia Transcription Factor (MiTF)

Concentrated and Prediluted Monoclonal Antibody

Control Number: 902-423-090617

Catalog Number:	ACR 423 BK	APR 423 AA
Description:	0.5 ml, concentrated	6.0 ml, prediluted
Dilution:	1:20-1:40	Ready-to-use
Diluent:	Renoir Red	N/A

Intended Use:

For Research Use Only. Not for use in diagnostic procedures.

Summary and Explanation:

Microphthalmia transcription factor (MiTF) was recently cloned as the human homolog of the mouse microphthalmia (mi) gene product. The mi phenotype is associated with a mutant mi locus and characterized by small eyes and loss of melanin pigments. MiTF is the only nuclear melanocytic marker and is a sensitive and specific marker for malignant melanoma, including some spindle-cell variants, in cytologic specimens, and may be superior to the current standard melanocytic markers, S100 protein and HMB45 antigen. MiTF may be very valuable for the diagnosis of melanoma, including desmoplastic variants; melanocytic soft tissue tumors, such as clear cell sarcoma; and the unusual group of tumors that show combined melanocytic and myoid differentiation, the perivascular epithelioid cell family of tumors (PEComas). Microphthalmia transcription factor may be a valuable addition to the marker panel used in diagnosing melanoma, in combination with S100, HMB45, Tyrosinase and MART-1.

Source: Mouse monoclonal

Species Reactivity: Human, others not tested

Clone: 34CA5

Isotype: IgG1/kappa

Total Protein Concentration: ~10 mg/ml. Call for lot specific Ig concentration.

Epitope/Antigen: Human MiTF

Cellular Localization: Nuclear

Positive Control: Melanoma

Normal Tissue: N/A

Abnormal Tissue: Melanoma

Known Applications:

Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

Supplied As: Buffer with protein carrier and preservative.

Renoir Red (BRR904)

Storage and Stability:

Store at 2°C to 8°C. Do not use after expiration date printed on vial. If reagents are stored under conditions other than those specified in the package insert, they must be verified by the user. Diluted reagents should be used promptly; any remaining reagent should be stored at 2°C to 8°C.

Protocol Recommendations:**Peroxide Block:**

Block for 5 minutes with Biocare's Peroxidized 1.

Pretreatment Solution: Diva**Pretreatment Protocol:**

Heat Retrieval Method:

Retrieve sections under pressure using Biocare's Decloaking Chamber, followed by a wash in distilled water. Alternatively, steam tissue sections for 45-60 minutes. Allow solution to cool for 10 minutes then wash in distilled water.

Protein Block:

Optional: Incubate for 5-10 minutes at RT with Biocare's Background Punisher.

Primary Antibody: Incubate for 30-60 minutes at RT.

Probe: Incubate for 10 minutes at RT with a Probe.

Protocol Recommendations cont'd:

Polymer: Incubate for 10 minutes at RT with a Polymer.

Chromogen:

Incubate for 5 minutes at RT when using Biocare's DAB – OR – Incubate for 5-7 minutes at RT when using Biocare's Warp Red.

Counterstain:

Counterstain with Hematoxylin. Rinse with deionized water. Apply Tacha's Bluing solution for 1 minute. Rinse with deionized water.

Technical Note:

This antibody has been standardized with Biocare's MACH 4 detection system. It can also be used on an automated staining system and with other Biocare polymer detection kits. Use TBS buffer for washing steps.

Performance Characteristics:

The optimum antibody dilution and protocols for a specific application can vary. These include, but are not limited to: fixation, heat-retrieval method, incubation times, tissue section thickness and detection kit used. Due to the superior sensitivity of these unique reagents, the recommended incubation times and titers listed are not applicable to other detection systems, as results may vary. The data sheet recommendations and protocols are based on exclusive use of Biocare products. Ultimately, it is the responsibility of the investigator to determine optimal conditions. These products are tools that can be used for interpretation of morphological findings in conjunction with other diagnostic tests and pertinent clinical data by a qualified pathologist.

Quality Control:

Refer to CLSI Quality Standards for Design and Implementation of Immunohistochemistry Assays; Approved Guideline-Second edition (I/LA28-A2) CLSI Wayne, PA USA (www.clsi.org). 2011

Precautions:

This antibody contains less than 0.1% sodium azide. Concentrations less than 0.1% are not reportable hazardous materials according to U.S. 29 CFR 1910.1200, OSHA Hazard communication and EC Directive 91/155/EC.

Sodium azide (NaN₃) used as a preservative is toxic if ingested. Sodium azide may react with lead and copper plumbing to form highly explosive metal azides. Upon disposal, flush with large volumes of water to prevent azide build-up in plumbing. (Center for Disease Control, 1976, National Institute of Occupational Safety and Health, 1976)

Specimens before and after fixation, and all materials exposed to them should be handled as if capable of transmitting infection and disposed of with proper precautions. Never pipette reagents by mouth and avoid contacting the skin and mucous membranes with reagents and specimens. If reagents or specimens come in contact with sensitive areas, wash with copious amounts of water.

Microbial contamination of reagents may result in an increase in nonspecific staining. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any such change. The MSDS is available upon request and is located at <http://biocare.net/support/msds/>.

Troubleshooting:

Follow the antibody specific protocol recommendations according to data sheet provided. If atypical results occur, contact Biocare's Technical Support at 1-800-542-2002.

Limitations and Warranty:

There are no warranties, expressed or implied, which extend beyond this description. Biocare is not liable for property damage, personal injury, or economic loss caused by this product.

References:

- Ohsie SJ, et al. Immunohistochemical characteristics of melanoma. J Cutan Pathol. 2008 May; 35(5):433-44.
- Sheffield MV, et al. Comparison of five antibodies as markers in the diagnosis of melanoma in cytologic preparations. Am J Clin Pathol. 2002 Dec; 118(6):930-6.
- Dorvault CC, et al. Microphthalmia transcription factor: a sensitive and specific marker for malignant melanoma in cytologic specimens. Cancer. 2001 Oct 25; 93(5):337-43.

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References cont'd:

4. O'Reilly FM, et al. Microphthalmia transcription factor immunohistochemistry: a useful diagnostic marker in the diagnosis and detection of cutaneous melanoma, sentinel lymph node metastases, and extracutaneous melanocytic neoplasms. *J Am Acad Dermatol.* 2001 Sep; 45(3):414-9.
5. Miettinen M, et al. Microphthalmia transcription factor in the immunohistochemical diagnosis of metastatic melanoma: comparison with four other melanoma markers. *Am J Surg Pathol.* 2001 Feb; 25(2):205-11.
6. Center for Disease Control Manual. Guide: Safety Management, NO. CDC-22, Atlanta, GA. April 30, 1976 "Decontamination of Laboratory Sink Drains to Remove Azide Salts."
7. Clinical and Laboratory Standards Institute (CLSI). Protection of Laboratory workers from occupationally Acquired Infections; Approved guideline-Third Edition CLSI document M29-A3 Wayne, PA 2005