abcam

ab3201

Anti-MiTF antibody [D5]

Anti-MiTF antibody [D5] (ab3201) is a mouse monoclonal antibody detecting MiTF in **Western Blot, Flow Cytometry (Intra)**. Suitable for **Human**.

- Over 30 publications
- Trusted since 2003

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 6.97% L-Arginine
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	D5
Purification technique	Affinity purification
Epitope	N-terminal
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC

Tested

Species	Human
Dilution info	1 µg/mL
Notes	-

Not recommended

Species	Rat, Mouse, Dog
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1 µg for 10^6 Cells
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Not recommended

Species	Rat
Dilution info	-
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Species	Mouse
Dilution info	-
Notes	-

Species	Dog
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Rat, Mouse, Dog
Dilution info	-
Notes	-

Target data

See full target information MITF

Function	Transcription factor that acts as a master regulator of melanocyte survival and differentiation as well as melanosome biogenesis (PubMed:10587587, PubMed:22647378, PubMed:27889061, PubMed:9647758). Binds to M-boxes (5'-TCATGTG-3') and symmetrical DNA sequences (E-boxes) (5'-CACGTG-3') found in the promoter of pigmentation genes, such as tyrosinase (TYR) (PubMed:10587587, PubMed:22647378, PubMed:27889061, PubMed:9647758). Involved in the cellular response to amino acid availability by acting downstream of MTOR: in the presence of nutrients, MITF phosphorylation by MTOR promotes its inactivation (PubMed:36608670). Upon starvation or lysosomal stress, inhibition of MTOR induces MITF dephosphorylation, resulting in transcription factor activity (PubMed:36608670). Plays an important role in melanocyte development by regulating the expression of tyrosinase (TYR) and tyrosinase-related protein 1 (TYRP1) (PubMed:10587587, PubMed:22647378, PubMed:27889061, PubMed:9647758). Plays a critical role in the differentiation of various cell types, such as neural crest-derived melanocytes, mast cells, osteoclasts and optic cup-derived retinal pigment epithelium (PubMed:10587587, PubMed:22647378, PubMed:27889061, PubMed:9647758).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot

Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-MiTF antibody [D5] (ab3201) is a mouse monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra) in Human samples.

What is the molecular weight of MiTF?
Anti-MiTF [D5] (ab3201) specifically detects a band for MiTF (UniProt: O75030) at a molecular weight of 59kDa.

Trusted by the scientific community
Anti-MiTF [D5] (ab3201) was first used in a scientific publication in 2003 and has been cited over 30 times in peer-reviewed journals.

Other related products
We have a range of other formats of antibody clone [D5] also available for your convenience: ab3201, Carrier free - ab182842, Alexa Fluor® 488 - ab201675

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

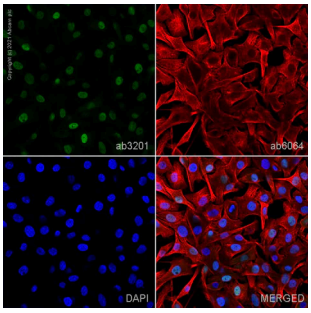
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

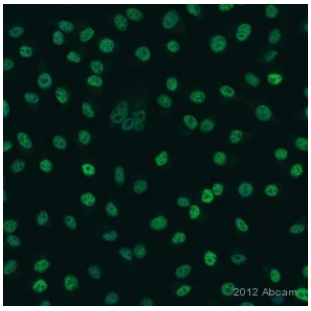
4 product images



Immunocytochemistry - Anti-MiTF antibody [D5] (ab3201)

MiTF Immunocytochemistry staining using mouse Anti-MiTF antibody

ab3201 staining MiTF in Malme-3M cells. The cells were fixed with 4% paraformaldehyde (10 min), permeabilized with 0.1% PBS-Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1%PBS-Tween for 1h. The cells were then incubated overnight at 4°C with ab3201 at 1µg/ml and ab6046, Rabbit polyclonal to beta Tubulin - Loading Control. Cells were then incubated with ab150117, Goat polyclonal Secondary Antibody to Mouse IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution (shown in green) and ab150080, Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 594) at 1/1000 dilution (shown in pseudocolour red). Nuclear DNA was labelled with DAPI (shown in blue).
Image was acquired with a high-content analyser (Operetta CLS, Perkin Elmer) and a maximum intensity projection of confocal sections is shown.

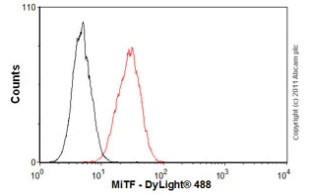


This image is courtesy of an anonymous customer review

Immunocytochemistry - Anti-MiTF antibody [D5] (ab3201)

MiTF Immunocytochemistry staining using mouse Anti-MiTF antibody

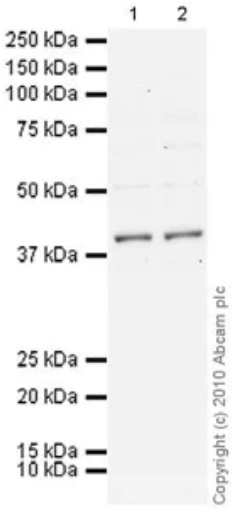
ab3201 staining MiTF in the SK-MEL-28 (Human cutaneous melanoma cell line) cells by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with Paraformaldehyde and permeabilized with Triton X-100 0.5% in PBS. Samples were incubated with primary antibody (1/100) for 24 hours at 4°C. An Alexa Fluor®488-conjugated Goat anti-mouse IgG polyclonal(1/1000) was used as the secondary antibody. SK-MEL-28 cells was grown on chamber slide. MiTF was found to strictly localised in the nucleus. Cells were counter-stained with DAPI.



Flow Cytometry (Intracellular) - Anti-MiTF antibody [D5] (ab3201)

MiTF Flow Cytometry (Intracellular) staining using mouse Anti-MiTF antibody

Overlay histogram showing Malme-3 (Human skin fibroblast cell line) cells stained with ab3201 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab3201, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.



Western blot - Anti-MiTF antibody [D5] (ab3201)

All lanes:
Western blot - Anti-MiTF antibody [D5] (ab3201) at 5 µg/mL

Lane 1:
HeLa (Human epithelial carcinoma cell line) whole cell lysate at 10 µg

Lane 2:
HeLa nuclear lysate at 10 µg

Secondary

All lanes:
Goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 58 kDa

Observed band size: 40 kDa

Exposure time: 10min

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.