abcam

ab186822

Anti-MCL1 antibody [Y37] - BSA and Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	Y37
Purification technique	Affinity purification Protein A
Specificity	This antibody recognises MCL1. The antibody does not cross-react with other Bcl-2 family members.
Concentration	1.036 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human

Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	Can be blocked with MCL1 peptide (ab199979).

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab199376 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse, Rat
Dilution info	-

Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information MCL1

Function	Involved in the regulation of apoptosis versus cell survival, and in the maintenance of viability but not of proliferation. Mediates its effects by interactions with a number of other regulators of apoptosis. Isoform 1 inhibits apoptosis. Isoform 2 promotes apoptosis.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab186822 is the carrier-free version of ab32087.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	MCL1 also known as myeloid cell leukemia sequence 1 is an anti-apoptotic member of the BCL-2 family. This protein plays an important role in regulating cell survival by inhibiting apoptosis. MCL1 has a molecular weight of approximately 37 kDa. It is primarily expressed in the mitochondria and can be found in various tissues including heart liver placenta and kidneys.
Biological function summary	MCL1 protein functions to maintain cell viability by counteracting pro-apoptotic stimuli. It interacts within the cell as part of a complex network involving other BCL-2 family proteins. MCL1 binds and sequesters BH3-only proteins and Bax therefore preventing them from initiating the apoptotic cascade. This interaction helps cells survive under stress conditions by temporarily inhibiting apoptosis.
Pathways	MCL1 plays a significant role in the intrinsic (mitochondrial) apoptosis pathway and the cell signaling pathways that facilitate cell survival and proliferation. In the mitochondrial pathway it works closely with other BCL-2 family members like BCL-xL and BCL-2 itself to control the permeability of the mitochondrial outer membrane and thereby influence cytochrome c release. The PI3K/AKT pathway can also regulate MCL1 leading to increases in its expression and stability which promotes cell survival.
Associated diseases and disorders	Researchers have linked alterations in MCL1 expression to various cancers including leukemia and lymphoma. Overexpression of MCL1 can contribute to

chemoresistance in cancer cells by preventing apoptosis. This protein's function is also connected to cardiomyopathies where altered MCL1 expression in cardiac tissue can influence cell death and survival outcomes. BCL-2 and BCL-xL closely related proteins also implicate in these conditions highlighting the central role of the apoptotic regulatory network in disease development.

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

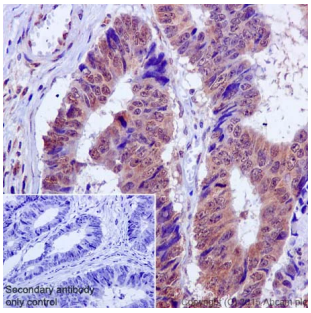
We do not recommend this combination. It is not covered by our product promise.

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.

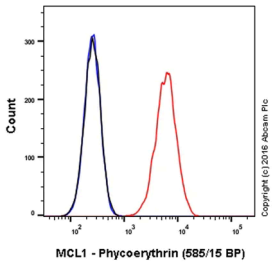
8 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCL1 antibody [Y37] - BSA and Azide free (ab186822)

MCL1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MCL1 antibody

This IHC data was generated using the same anti-MCL1 antibody clone, Y37, in a different buffer formulation (cat# ab32087).
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human colon adenocarcinoma tissue labelling MCL1 with purified ab32087 at 1/100. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. ab97051, a goat anti-rabbit IgG H&L (HRP) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.



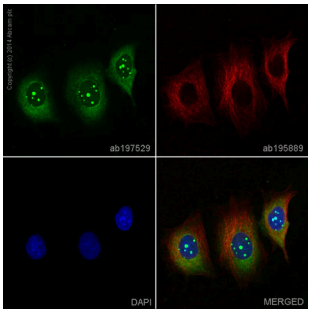
Flow Cytometry (Intracellular) - Anti-MCL1 antibody [Y37] - BSA and Azide free (ab186822)

MCL1 Flow Cytometry (Intracellular) staining using rabbit Anti-MCL1 antibody

Clone Y37 (ab186822) has been successfully conjugated by Abcam. This image was generated using Anti-MCL1 antibody [Y37] (PE). Please refer to ab209289 for protocol details.
Overlay histogram showing MCF7 cells stained with ab209289 (red line). The cells were fixed with 4% formaldehyde (10 min) and then permeabilized with 90% methanol for 30 min at -20°C. The cells were then incubated in 1x PBS / 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (ab209289, 1/2500 dilution) for 30 min at 22°C.

Isotype control antibody (black line) was rabbit IgG (monoclonal) Phycoerythrin (ab209478) used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.

Acquisition of >5,000 events were collected using a 50 mW Yellow/Green laser (561nm) and 586/15 bandpass filter.

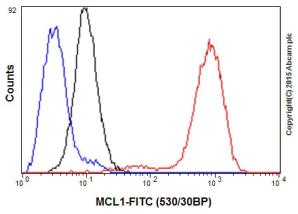


Immunocytochemistry/ Immunofluorescence - Anti-MCL1 antibody [Y37] - BSA and Azide free (ab186822)

MCL1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MCL1 antibody

Clone Y37 (ab186822) has been successfully conjugated by Abcam. This image was generated using Anti-MCL1 antibody [Y37] (Alexa Fluor® 488). Please refer to ab197529 for protocol details.
ab197529 staining MCL1 in HeLa cells. The cells were fixed with 100% methanol (5 min), permeabilised in 0.1% Triton X-100 for 5 minutes and then blocked in 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab197529 at 1/100 dilution (shown in green) and ab195889, Mouse monoclonal [DM1A] to alpha Tubulin (Alexa Fluor® 594, shown in red) at 1/167 dilution overnight at +4°C. Nuclear DNA was labelled in blue with DAPI.

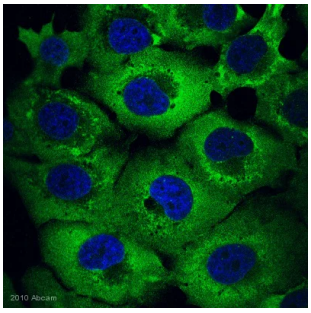
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



Flow Cytometry (Intracellular) - Anti-MCL1 antibody [Y37] - BSA and Azide free (ab186822)

MCL1 Flow Cytometry (Intracellular) staining using rabbit Anti-MCL1 antibody

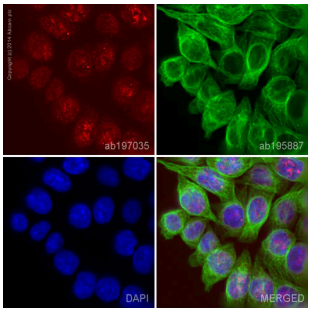
Intracellular Flow Cytometry analysis of Ramos (human Burkitt's lymphoma cell line) cells labelling MCL1 with purified ab32087 at 1/250 (red). Cells were fixed with 4% paraformaldehyde. A FITC-conjugated goat anti-rabbit IgG (1/500) was used as the secondary antibody. Black - Isotype control, rabbit monoclonal IgG. Blue - Unlabelled control, cells without incubation with primary and secondary antibodies.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32087).



Immunocytochemistry/ Immunofluorescence - Anti-MCL1 antibody [Y37] - BSA and Azide free (ab186822)

MCL1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MCL1 antibody

This ICC/IF data was generated using the same anti-MCL1 antibody clone, Y37, in a different buffer formulation (cat# ab32087).
Immunocytochemistry/Immunofluorescence analysis of H1299 cells labelling MCL1 with unpurified ab32087. Cells were PFA-fixed and permeabilized in 0.5% Triton X-100 prior to blocking in 3% Serum for 1 hour at 24°C. The primary antibody was diluted 1/100 and incubated with the sample for 1 hour at 24°C. The secondary antibody was an Alexa Fluor® 488-conjugated Goat anti-Rabbit polyclonal, diluted 1/2000. DAPI (blue) was used as the nuclear counterstain.

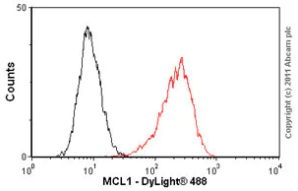


Immunocytochemistry/ Immunofluorescence - Anti-MCL1 antibody [Y37] - BSA and Azide free (ab186822)

MCL1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MCL1 antibody

Clone Y37 (ab186822) has been successfully conjugated by Abcam. This image was generated using Anti-MCL1 antibody [Y37] (Alexa Fluor® 647). Please refer to ab197035 for protocol details. ab197035 staining MCL1 in HCT116 cells. The cells were fixed with 4% formaldehyde (10 min), permeabilized with 0.1% 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 ab at a 1/100 dilution (shown in red) and ab195887, Mouse monoclonal to alpha Tubulin (Alexa Fluor® 488), at a 1/250 dilution (shown in green). Nuclear DNA was labelled with DAPI (shown in blue).

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



Flow Cytometry (Intracellular) - Anti-MCL1 antibody [Y37] - BSA and Azide free (ab186822)

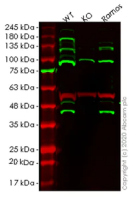
MCL1 Flow Cytometry (Intracellular) staining using rabbit Anti-MCL1 antibody

Intracellular Flow Cytometry analysis of A431 (human epidermoid carcinoma cell line) cells labelling MCL1 with unpurified ab32087 (red line). Cells were fixed with 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 followed by

the antibody (ab32087, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-rabbit IgG (H+L) (ab96899) at 1/500 dilution for 30 min at 22°C.
Black - Isotype control, rabbit monoclonal IgG.

Acquisition of >5,000 events was performed. This antibody gave a decreased signal in A431 cells fixed with 4% paraformaldehyde (10 min)/permeabilized with 0.1% PBS-Tween used under the same conditions.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32087).



Western blot - Anti-MCL1 antibody [Y37] - BSA and Azide free (ab186822)

MCL1 Western blot staining using rabbit Anti-MCL1 antibody

This data was developed using the same antibody clone in a different buffer formulation (ab32087).
Lanes 1-3: Merged signal (red and green). Green - ab32087 observed at 37 kDa. Red - loading control ab7291 observed at 50 kDa.

ab32087 Anti-MCL1 antibody [Y37] was shown to specifically react with MCL1 in wild-type HEK293T cells. Loss of signal was observed when knockout cell line ab266838 (knockout cell lysate ab256986) was used. Wild-type and MCL1 knockout samples were subjected to SDS-PAGE. ab32087 and Anti-alpha Tubulin antibody [DM1A] - Loading Control (ab7291) were incubated overnight at 4°C at 1 in 1000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-MCL1 antibody [Y37] (ab32087) at 1/1000 dilution

Lane 1:
Wild-type HEK293T cell lysate at 20 µg

Lane 2:
MCL1 knockout HEK293T cell lysate at 20 µg

Lane 2:
Western blot - Human MCL1 knockout HEK-293T cell line (ab266838)

Lane 3:
Ramos cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) at 1/10000 dilution

Predicted band size: 37 kDa

Observed band size: 37 kDa

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