abcam

ab185033

Alexa Fluor® 488 Anti-Desmin antibody [Y66] - Cytoskeleton Marker

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 488
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	Y66
Purification technique	Affinity purification Protein A
Epitope	ab32362 reacts with an epitope located in the C terminal region of desmin.
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/100
Notes	-

Expected

Species	Rat, Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Guinea pig
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Rat
Dilution info	1/50
Notes	ab199091 - Rabbit monoclonal IgG (Alexa FluorÂ® 488), is suitable for use as an isotype control with this antibody.

Expected

Species	Human, Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Guinea pig
Dilution info	-

Notes	-

IHC-P

Expected

Species	Human, Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Guinea pig
Dilution info	-
Notes	-

Target data

See full target information DES

Function	Muscle-specific type III intermediate filament essential for proper muscular structure and function. Plays a crucial role in maintaining the structure of sarcomeres, inter-connecting the Z-disks and forming the myofibrils, linking them not only to the sarcolemmal cytoskeleton, but also to the nucleus and mitochondria, thus providing strength for the muscle fiber during activity (PubMed:25358400). In adult striated muscle they form a fibrous network connecting myofibrils to each other and to the plasma membrane from the periphery of the Z-line structures (PubMed:24200904, PubMed:25394388, PubMed:26724190). May act as a sarcomeric microtubule-anchoring protein: specifically associates with detyrosinated tubulin-alpha chains, leading to buckled microtubules and mechanical resistance to contraction. Required for nuclear membrane integrity, via anchoring at the cell tip and nuclear envelope, resulting in maintenance of microtubule-derived intracellular mechanical forces (By similarity). Contributes to the transcriptional regulation of the NKX2-5 gene in cardiac progenitor cells during a short period of cardiomyogenesis and in cardiac side population stem cells in the adult. Plays a role in maintaining an optimal conformation of nebulette (NEB) on heart muscle sarcomeres to bind and recruit cardiac alpha-actin (By similarity).

Storage

Shipped at conditions	Blue Ice

Appropriate short-term storage duration	1-2 weeks
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, Stable for 12 months at -20°C, Store in the dark

Notes

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.

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Supplementary info

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

Activity summary	Desmin also referred to as Desmin 20 is an intermediate filament protein with a molecular weight of approximately 53 kDa. Primarily found in muscle cells desmin provides structural integrity to cells being an important component of the cytoskeleton. Desmin expression is highly specific to cardiac skeletal and smooth muscle tissues and it can be detected using desmin marker techniques like desmin IHC (Immunohistochemistry). Desmin staining or desmin stain methods are commonly employed in diagnostic labs to visualize this protein within tissue samples.
Biological function summary	Desmin plays a significant role in maintaining cellular architecture by anchoring organelles such as nuclei and mitochondria within the cytoplasm. It associates with other proteins to form desmin intermediate filament networks which facilitate force transmission and maintain mechanical integrity. This protein does not

	operate in isolation but is part of a larger complex of cytoskeletal elements that reinforce muscle cell shape and resilience. Its interactions and binding with other cytoskeletal components confirm its essential role in muscle structure.
Pathways	Desmin links closely to the cell structure and function pathways providing stability during muscle contraction processes. It interacts with other proteins including actin and tubulin within the cytoskeleton network ensuring coordinated responses to mechanical stress. Specifically desmin integrates into pathways related to the maintenance of the sarcomere structure thereby connecting to additional important proteins like myosin and dystrophin which collectively uphold muscular function and integrity.
Associated diseases and disorders	Desmin mutations can lead to myopathies such as desmin-related myopathy (DRM) or cardiomyopathy where the structural disruptions result in abnormal muscle function. These conditions typically manifest as muscle weakness or cardiac abnormalities. Furthermore its relationship to the sarcomere suggests interactions with proteins like dystrophin in muscular dystrophies where desmin integrity critically influences disease progression and severity. Understanding desmin's link to such disorders underpins its role as a diagnostic marker and a potential therapeutic target in muscle-related diseases.

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

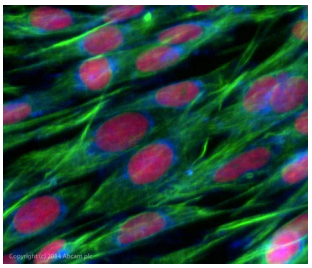
We do not recommend this combination. It is not covered by our product promise.

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.

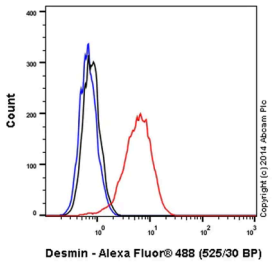
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2 product images



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-Desmin antibody [Y66] - Cytoskeleton Marker (ab185033)

ab185033 staining Desmin in SV40LT-SMC cells. The cells were fixed with 4% formaldehyde (10min) 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 ab185033 at 1/50 dilution overnight at +4°C (shown in green). AlexaFluor®350 WGA was used at a 1/200 dilution and incubated for 1h with the cells, to label plasma membranes (shown in blue). Nuclear DNA was labelled in red with 1.25 µM DRAQ5™ (ab108410).



Flow Cytometry (Intracellular) - Alexa Fluor® 488 Anti-Desmin antibody [Y66] - Cytoskeleton Marker (ab185033)

Overlay histogram showing SV40LT-SMC cells stained with ab185033 (red line). The cells were fixed with 4% formaldehyde (10 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 (ab185033, 1/50 dilution) for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) Alexa Fluor® 488 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 20mW Argon ion laser (488nm) and 525/30 bandpass filter.

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