abcam

ab15277

Anti-Dystrophin antibody

Anti-dystrophin antibody is a rabbit polyclonal antibody that is used in DMD immunohistochemistry on paraffin-embedded sections (IHC-P) and immunohistochemistry on frozen sections (IHC-Fr). Suitable for human and mouse samples.

- Cited in over 420 publications
- Tried and trusted by researchers since 2004
- Affinity purified

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.6 Preservative: 0.1% Sodium azide Constituents: PBS, 1% BSA
Form	Liquid
Clonality	Polyclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Purification technique	Affinity purification Immunogen
Concentration	0.2 - 0.52 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/100

Notes	-

Expected

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

Predicted

Species	Rat, Dog, Pig
Dilution info	-
Notes	-

IHC-Fr

Tested

Species	Mouse
Dilution info	1/400
Notes	Use with acetone-fixed tissues.

Expected

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

Predicted

Species	Rat, Dog, Pig
Dilution info	-
Notes	-

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

Anti-Dystrophin antibody (ab15277) is a rabbit polyclonal antibody and is validated for use in IHC-Fr, IHC-P in human, mouse samples.

Anti-Dystrophin antibody (ab15277) has been cited over 426 times in peer reviewed journals and is trusted by the scientific community.

Abcam's high quality validation processes ensure Anti-Dystrophin antibody (ab15277) has high sensitivity and specificity.

Anti-Dystrophin antibody (ab15277) has 23 independent reviews from customers.

Anti-Dystrophin antibody (ab15277) specifically detects Dystrophin (UniProt ID: P11532; Molecular weight: 427kDa) and is sold in 100 µL, 500 µL and 1 mL selling sizes.

Dystrophin is a crucial protein that helps maintain the structural integrity of muscle cells by linking the cytoskeleton to the extracellular matrix. It is part of the dystrophin-associated protein complex (DAPC). Mutations in the dystrophin gene cause Duchenne Muscular Dystrophy (DMD) and Becker Muscular Dystrophy (BMD), leading to progressive muscle weakness and degeneration.

Abcam is leading the way to address reproducibility in scientific research with our highly validated recombinant monoclonal and recombinant multiclonal antibodies. Search & select one of Abcam's thousands of recombinant alternatives to eliminate batch-variability and unnecessary animal use.

If you do not find a host species to meet your needs, our catalogue and custom Chimeric range provides scientists the specificity of Abcam's RabMAbs in the species backbone of your choice. Remember to also review our range of edited cell lines, proteins and biochemicals relevant to your target that may help you further your research goals.

Abcam antibodies are extensively validated in a wide range of species and applications, so please check the reagent specifications meet your scientific needs before purchasing. If you have any questions or bespoke requirements, simply visit the Contact Us page to send us an inquiry or contact our Support Team ahead of purchase.

This product is FOR RESEARCH USE ONLY. For commercial use, please contact partnerships@abcam.com.

Supplementary info

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

Activity summary	Dystrophin also known as the DMD protein plays a mechanical role in muscle fibers by connecting the cytoskeleton of a muscle fiber to the surrounding extracellular matrix through the cell membrane. This structural connection helps reinforce the muscle fiber during contraction and mechanical stress. The protein has a molecular weight of approximately 427 kDa. It is expressed mainly in skeletal and cardiac muscles where it is important for maintaining muscle integrity.
Biological function summary	Dystrophin acts as an important component of the dystrophin-glycoprotein complex. This complex stabilizes the muscle cell membrane by linking actin filaments within the cytoskeleton to proteins in the extracellular matrix. The absence or malfunctioning of dystrophin disrupts this connection leading to increased susceptibility to damage during muscle contraction. This is especially evident in tissues where the protein is abundantly present.
Pathways	Dystrophin is integral to the structural integrity pathway in muscle cells. It works alongside proteins like dystroglycan and sarcoglycan forming a multiprotein complex that ensures cell membrane stability during muscle contractions. The proper functioning of the dystrophin complex is also linked to calcium signaling pathways highlighting its role in cellular signaling mechanisms.
Associated diseases and disorders	Dystrophin's malfunction is directly associated with Duchenne Muscular Dystrophy (DMD) and Becker Muscular Dystrophy (BMD). Mutations in the DMD gene which encodes the dystrophin protein result in the absence or reduced functionality of the protein leading to progressive muscle degeneration observed in DMD and BMD. These disorders frequently involve the protein utrophin which sometimes compensates for the lack of functional dystrophin albeit insufficiently to alleviate the symptoms.

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

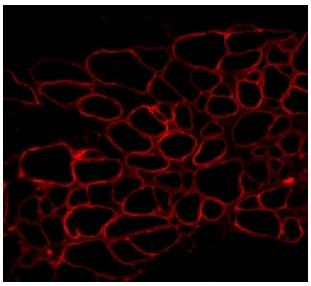
We do not recommend this combination. It is not covered by our product promise.

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.

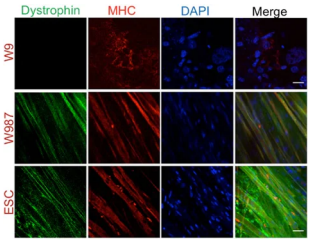
5 product images



Immunohistochemistry (Frozen sections) - Anti-Dystrophin antibody (ab15277)

Muscle stem cells (from normal mouse) were injected into the gastric muscle of an MDX mouse. Dystrophin staining: primary antibody ab15277 and secondary antibody is donkey anti-rabbit Alexa 594.

This image was kindly supplied as part of the review submitted by Jessica Tebbets.



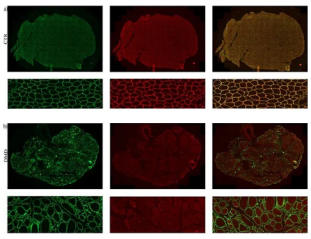
Zhao C. et al PLoS One. 2014 Apr 29;9(4):e96279. doi: 10.1371/journal.pone.0096279. eCollection 2014.

Immunohistochemistry (Frozen sections) - Anti-Dystrophin antibody (ab15277)

Immunofluorescence staining of dystrophin in W9, W987, and ESC. Myosin heavy chain (MHC) identified mouse muscle cells after differentiation. DAPI was used to stain nuclei.

Seventy-two hours before engraftment, 8 week-old *mdx/SCID* mice received 14 Gy of irradiation localized to the hind limb muscles. On the day of engraftment, SM/C-2.6-positive myogenic cells were purified by fluorescence-activated cell sorting (FACS), using a BD Aria II FACS machine and the same labeling protocol as described above for FC analysis, resuspended in 30 µl of phosphate buffered saline (PBS), loaded into an insulin syringe (BD), and injected into the left tibialis anterior (TA) muscle of anesthetized mice. 7.5×10^5 differentiated and sorted W987 cells were injected. Control mice were injected with PBS alone. Three weeks following engraftment, TA muscles were harvested, fixed in 0.5% paraformaldehyde for 4 hours, dehydrated in 20% sucrose overnight and frozen in optimal cutting temperature (OCT) using liquid nitrogen cooled methyl-butane. Tissue blocks imbedded in OCT were cryosectioned and processed for immunocytochemical analysis using rabbit anti-dystrophin. Secondary antibodies used were donkey anti-rabbit conjugated to Alexafluor 594 and donkey anti-rat conjugated to Alexafluor 488 (Life Technologies). Nuclei were visualized using NucBlue Fixed Cell Stain (Life Technologies).

Gene-corrected *mdx* iPSC W987, non-gene-corrected unexcised *mdx* iPSC W9 and wild-type ESC controls.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Dystrophin antibody (ab15277)

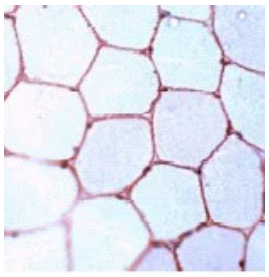
Dystrophin quantification in a population of myofibres identified in entire muscle sections performing the double labelling anti-dystrophin ab15277 (red; 1/200 dilution) and anti-spectrin (green; 1/20 dilution).

Sardone V. PLoS One. 2018 Mar

All the labellings were performed at RT. Human Muscle sections were incubated with the primary antibody combination (anti-dystrophin ab15277 and anti-spectrin) for 1 hour. After three washes with PBS sections were incubated with Alexa Fluor 488 conjugated anti-mouse IgG (1:100, Thermo Fisher Scientific, Hemel Hempstead, UK) and anti-rabbit biotinylated IgG (1:200; GE Healthcare, Amersham Pl, UK) for 30 minutes. PBS washes were performed and sections were incubated with Alexa Fluor 594 streptavidin conjugate (1:1000, Thermo Fisher Scientific, Hemel Hempstead, UK).

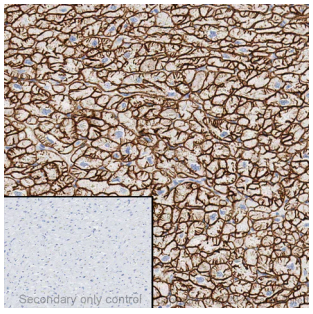
Representative images of entire muscle sections stained and acquired by the Axio Scan slide scanner and processed with Definens algorithm derived from a control (a) and from a DMD patient (b).

DMD: Duchenne Muscular Dystrophy.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Dystrophin antibody (ab15277)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of human skeletal muscle labeling Dystrophin with ab15277 at 1/100 dilution.



Immunohistochemistry - Anti-Dystrophin antibody (ab15277)

Immunohistochemical analysis of formalin fixed paraffin embedded human heart labelling Dystrophin with ab15277 at a dilution of 1/800. The immunostaining was performed on a Ventana DISCOVERY ULTRA (Roche Tissue Diagnostics) instrument with a OptiView DAB IHC Detection Kit. Heat mediated antigen retrieval was performed with DISCOVERY cell conditioning solution (CC1) 100°C, pH 8.5 for 32 mins.

ab15277 Anti-Dystrophin antibody was incubated for 16 mins at 37°C. Sections were counterstained with Hematoxylin II. Image inset shows absence of staining in secondary antibody only control.

Customers are encouraged to optimise antigen retrieval conditions, antibody concentration, incubation times and temperature for best results in their own IHC assay workflow (automated and manual).