abcam

ab68204

Anti-ACTN3 antibody [EP2531Y] - Loading Control

Lab Essentials | Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EP2531Y
Purification technique	Affinity purification Protein A
Concentration	0.253 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 - 1/250
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/5000 - 1/10000
Notes	-

Species	Human
Dilution info	1/5000 - 1/10000
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Rat
Dilution info	1/30

Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

Target data

See full target information ACTN3

Function	F-actin cross-linking protein which is thought to anchor actin to a variety of intracellular structures. This is a bundling protein.

Storage

Shipped at conditions	Conditional Ambient
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

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.

Supplementary info

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

Activity summary	The ACTN3 protein also known as alpha-actinin-3 has a mechanical role in muscle function. This protein which weighs around 103 kDa is a structural component of the Z-disc in skeletal muscle fibers. It crosslinks actin filaments and stabilizes the sarcomere during muscle contraction and force transmission. ACTN3 is expressed in fast-twitch muscle fibers which are essential for rapid and forceful contractions.
Biological function summary	ACTN3 influences muscle performance and fiber type composition. As part of a complex it interacts with other proteins in the Z-disc helping maintain muscle integrity and function. The presence or absence of ACTN3 affects muscle strength power and endurance. Its expression level varies among individuals impacting their athletic performance capabilities.
Pathways	The ACTN3 protein plays a role in cellular pathways linked to muscle contraction and energy metabolism. It is involved in the regulation of the glycolysis pathway a critical energy source for fast-twitch muscles. ACTN2 a closely related protein can compensate for some functions of ACTN3 showing their interaction within these pathways. This functional relationship is important for maintaining muscle function under different metabolic conditions.
Associated diseases and disorders	ACTN3 relates to muscular dystrophies and athletic performance capabilities. Individuals lacking functional ACTN3 due to a common null polymorphism may show differences in muscle power output impacting conditions like sarcopenia characterized by age-related muscle decline. The protein also associates with dystrophin in muscular disorders like Duchenne Muscular Dystrophy highlighting its importance in maintaining skeletal muscle health.

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.

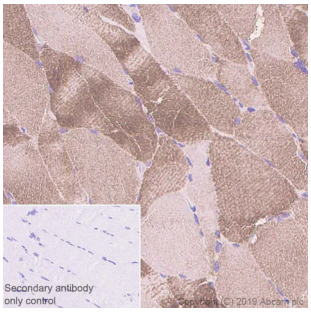
6 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ACTN3 antibody [EP2531Y] - Loading Control (ab68204)

ACTN3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ACTN3 antibody

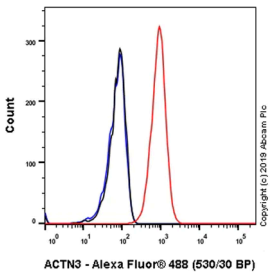
Immunohistochemical analysis of paraffin-embedded human muscle tissue using unpurified ab68204 at 1/100-1/250 dilution.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ACTN3 antibody [EP2531Y] - Loading Control (ab68204)

ACTN3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ACTN3 antibody

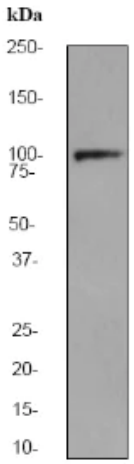
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human skeletal muscle tissue sections labeling ACTN3 with purified ab68204 at 1/250 dilution (0.97 µg/ml). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Flow Cytometry (Intracellular) - Anti-ACTN3 antibody [EP2531Y] - Loading Control (ab68204)

ACTN3 Flow Cytometry (Intracellular) staining using rabbit Anti-ACTN3 antibody

Intracellular Flow Cytometry analysis of L6 (Rat skeletal muscle myoblast) cells labeling ACTN3 with purified ab68204 at 1/30 dilution (10 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Western blot - Anti-ACTN3 antibody [EP2531Y] - Loading Control (ab68204)

ACTN3 Western blot staining of human skeletal muscle lysate using rabbit Anti-ACTN3 antibody

All lanes:
Western blot - Anti-ACTN3 antibody [EP2531Y] - Loading Control (ab68204) at 1/10000 dilution

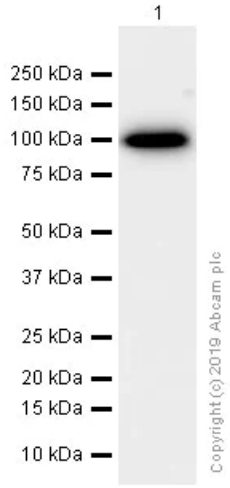
All lanes:
human skeletal muscle lysate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 103 kDa

Observed band size: 103 kDa



Western blot - Anti-ACTN3 antibody [EP2531Y] - Loading Control (ab68204)

ACTN3 Western blot staining of Human skeletal muscle lysates using rabbit Anti-ACTN3 antibody

All lanes:
Western blot - Anti-ACTN3 antibody [EP2531Y] - Loading Control (ab68204) at 1/5000 dilution

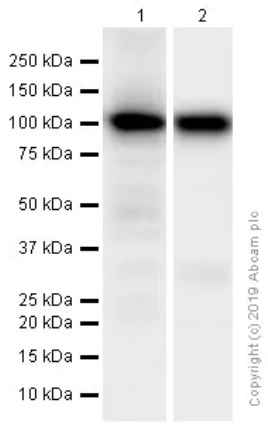
All lanes:
Human skeletal muscle lysates at 15 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Predicted band size: 103 kDa

Observed band size: 100 kDa



Western blot - Anti-ACTN3 antibody [EP2531Y] - Loading Control (ab68204)

ACTN3 Western blot staining using rabbit Anti-ACTN3 antibody

All lanes:
Western blot - Anti-ACTN3 antibody [EP2531Y] - Loading Control (ab68204) at 1/20000 dilution

Lane 1:
Mouse skeletal muscle lysates at 15 µg

Lane 2:
Rat skeletal muscle lysates at 15 µg

Secondary

All lanes:

Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 103 kDa

Observed band size: 100 kDa

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