

Anti-ACTN3 Antibody Picoband™ (monoclonal, 9B5)

Catalog # ABO14800

Product Information

Application	WB, IHC
Primary Accession	Q08043
Host	Mouse
Isotype	Mouse IgG1
Reactivity	Rat, Mouse
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-ACTN3 Antibody Picoband™ (monoclonal, 9B5) . Tested in IHC, WB applications. This antibody reacts with Mouse, Rat.

Additional Information

Gene ID	89
Other Names	Alpha-actinin-3, Alpha-actinin skeletal muscle isoform 3, F-actin cross-linking protein, ACTN3
Calculated MW	103241
Application Details	Western blot, 0.1-0.5 µg/ml Immunohistochemistry (Paraffin-embedded Section), 0.5-1 µg/ml
Tissue Specificity	Expressed only in a subset of type 2 skeletal muscle fibers.
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg NaN ₃ .
Clone Names	Clone: 9B5
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human ACTN3, different from the related mouse sequence by five amino acids.
Cross Reactivity	No cross-reactivity with other proteins.
Storage	Store at -20 °C for one year from date of receipt. After reconstitution, at 4 °C for one month. It can also be aliquotted and stored frozen at -20 °C for six months. Avoid repeated freeze-thaw cycles.

Protein Information

Name	ACTN3
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Function	F-actin cross-linking protein which is thought to anchor actin to a variety of intracellular structures. This is a bundling protein.
Tissue Location	Expression restricted to fast (type 2) skeletal muscle fibers (at protein level).

Background

Alpha-actinin-3, also known as alpha-actinin skeletal muscle isoform 3 or F-actin cross-linking protein, is a protein that in humans is encoded by the ACTN3 gene. This gene encodes a member of the alpha-actinin binding protein gene family. The encoded protein is primarily expressed in skeletal muscle and functions as a structural component of sarcomeric Z line. This protein is involved in crosslinking actin containing thin filaments. An allelic polymorphism in this gene results in both coding and non-coding variants; the reference genome represents the coding allele. The non-functional allele of this gene is associated with elite athlete status.

Images

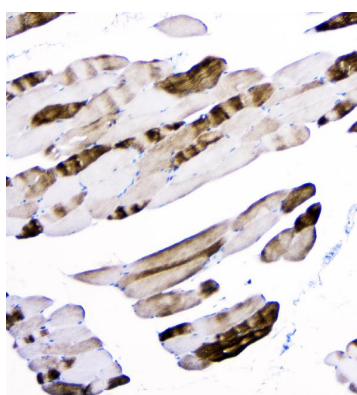


Figure 2. IHC analysis of ACTN3 using anti-ACTN3 antibody (M02693).

ACTN3 was detected in paraffin-embedded section of human skeletal muscle tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-ACTN3 Antibody (M02693) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1021) with DAB as the chromogen.

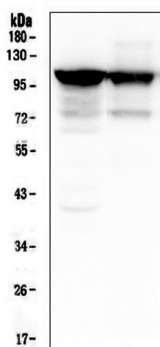


Figure 1. Western blot analysis of ACTN3 using anti-ACTN3 antibody (M02693).

Electrophoresis was performed on a 10% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.

Lane 1: rat skeletal muscle tissue,

Lane 2: mouse skeletal muscle tissue.

After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-ACTN3 antigen affinity purified monoclonal antibody (Catalog # M02693) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system.