abcam

Product datasheet

Anti-Syntrophin antibody [1351] ab11425

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Overview

Product name	Anti-Syntrophin antibody [1351]
Description	Mouse monoclonal [1351] to Syntrophin
Host species	Mouse
Specificity	ab11425 is known to be reactive with the alpha 1, beta 1 and beta 2 subunits of syntrophin.
Tested applications	**Suitable for:** ICC/IF, IP, WB, Flow Cyt
Species reactivity	**Reacts with:** Mouse, Rat, Human **Predicted to work with:** Fish
Immunogen	Full length native protein (purified) corresponding to Syntrophin. Whole purified syntrophin from Torpedo californica electric organ postsynaptic membrane.
Epitope	ab11425 is directed against an epitope within the PDZ domain of syntrophin.
Positive control	WB: U-87MG, PC-3, and HeLa cell lysates.
General notes	ab11425 is seen as the "gold standard" for syntrophin assessment. The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS, 1% BSA
Purity	Immunogen affinity purified
Primary antibody notes	ab11425 is seen as the "gold standard" for syntrophin assessment.
Clonality	Monoclonal

Clone number	1351
Isotype	IgG1

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab11425 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF	★★★★☆ (1)	Use a concentration of 10 µg/ml.
IP		Use a concentration of 5 µg/ml.
WB	★★★★★ (2)	Use a concentration of 0.2 µg/ml. Detects a band of approximately 58 kDa (predicted molecular weight: 54 kDa).
Flow Cyt		Use 0.5µg for 10^6 cells. **ab170190** - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Target

Function Adapter protein that binds to and probably organizes the subcellular localization of a variety of membrane proteins. May link various receptors to the actin cytoskeleton and the extracellular matrix via the dystrophin glycoprotein complex. Plays an important role in synapse formation and in the organization of UTRN and acetylcholine receptors at the neuromuscular synapse. Binds to phosphatidylinositol 4,5-bisphosphate.

Tissue specificity High expression in skeletal muscle and heart. Low expression in brain, pancreas, liver, kidney and lung. Not detected in placenta.

Involvement in disease Long QT syndrome 12 (LQT12) [MIM:612955]: A heart disorder characterized by a prolonged QT interval on the ECG and polymorphic ventricular arrhythmias. They cause syncope and sudden death in response to exercise or emotional stress, and can present with a sentinel event of sudden cardiac death in infancy. Note=The disease is caused by mutations affecting the gene represented in this entry.

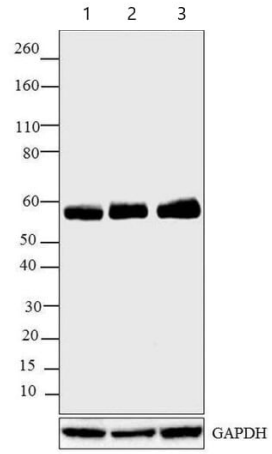
Sequence similarities Belongs to the syntrophin family.
Contains 1 PDZ (DHR) domain.
Contains 2 PH domains.
Contains 1 SU (syntrophin unique) domain.

Domain The PH 1 domain mediates the oligomerization in a calcium dependent manner, and the association with the phosphatidylinositol 4,5-bisphosphate.
The PDZ domain binds to the last three or four amino acids of ion channels and receptor proteins. The association with dystrophin or related proteins probably leaves the PDZ domain available to recruit proteins to the membrane.
The SU domain binds calmodulin in a calcium-dependent manner.

Post-translational modifications Phosphorylated by CaM-kinase II. Phosphorylation may inhibit the interaction with DMD.

Cellular localization Cell membrane > sarcolemma. Cell junction. Cytoplasm > cytoskeleton. In skeletal muscle, it localizes at the cytoplasmic side of the sarcolemmal membrane and at neuromuscular junctions.

Images



Western blot - Anti-Syntrophin antibody [1351] (ab11425)

All lanes : Anti-Syntrophin antibody [1351] (ab11425) at 1 µg/ml

Lane 1 : U-87 MG (human glioblastoma-astrocytoma epithelial cell line) whole cell lysate
Lane 2 : PC-3 (human prostate adenocarcinoma cell line) whole cell lysate
Lane 3 : HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate

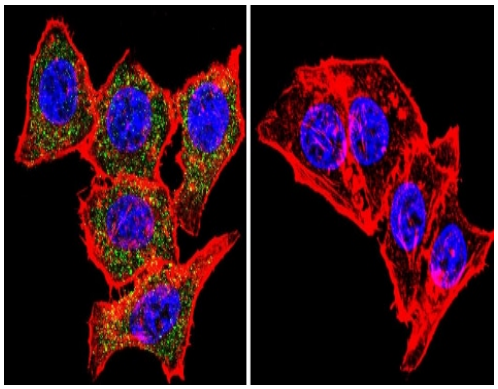
Lysates/proteins at 30 µg per lane.

Secondary
All lanes : Goat anti-Mouse IgG (H+L) (HRP) at 1/4000 dilution

Developed using the ECL technique.

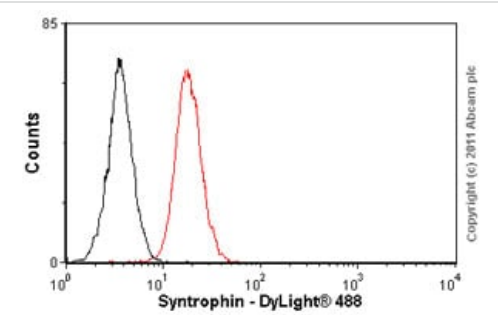
Predicted band size: 54 kDa
Observed band size: 54 kDa

Protein samples were electrophoresed by SDS-PAGE using a 12% Bis-Tris gel. Resolved proteins were then transferred onto a nitrocellulose membrane.The membrane was probed with the relevant primary and secondary antibodies following blocking with 5% skimmed milk.



Immunocytochemistry/ Immunofluorescence - Anti-Syntrophin antibody [1351] (ab11425)

Immunocytochemistry/Immunofluorescence analysis of HeLa cells labeling Syntrophin (green) with ab11425 at 1/20. F-Actin staining with Phalloidin (red) and nuclei with DAPI (blue). Cells were fixed with formaldehyde and incubated with the primary antibody overnight at 4°C. A DyLight 488-conjugated secondary antibody was used. 60X magnification. Right - negative control.



Flow Cytometry - Anti-Syntrophin antibody [1351] (ab11425)

Overlay histogram showing SH-SY5Y cells stained with ab11425 (red line). The cells were fixed with 4% paraformaldehyde (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 (ab11425, 0.5µg/1x10^6 cells) for 30 min at 22ºC. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (**ab96879**) at 1/500 dilution for 30 min at 22ºC. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (**ab91353**, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in SH-SY5Y cells fixed with 80% methanol (5 min)/permeabilized in 0.1% PBS-Tween used under the same conditions.

Western blot - Anti-Syntrophin antibody [1351] (ab11425)

All lanes : Anti-Syntrophin antibody [1351] (ab11425) at 5 µg/ml

Lane 1 : Human skeletal muscle tissue lysate - total protein (**ab29330**)
Lane 2 : Skeletal Muscle (Rat) Tissue Lysate
Lane 3 : Skeletal Muscle (Mouse) Tissue Lysate

Lysates/proteins at 20 µg per lane.

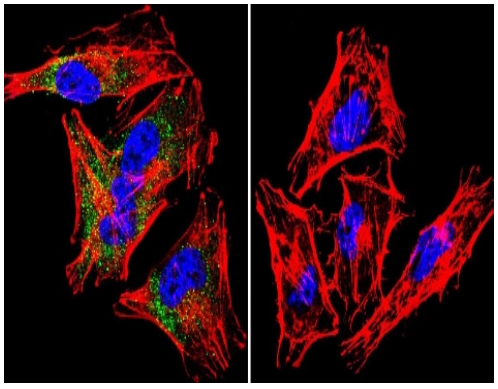
Secondary
All lanes : Goat polyclonal Secondary Antibody to Mouse IgG - H&L (HRP), pre-adsorbed at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

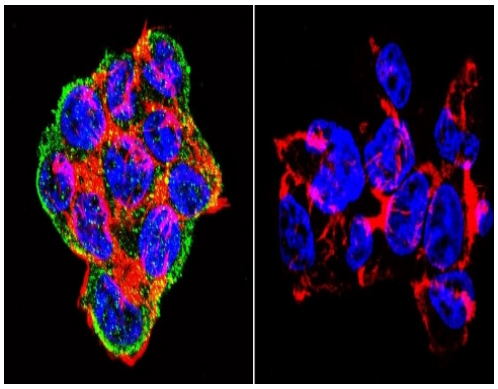
Predicted band size: 54 kDa
Observed band size: 58 kDa
Additional bands at: 26 kDa, 42 kDa. We are unsure as to the identity of these extra bands.

Exposure time: 12 minutes



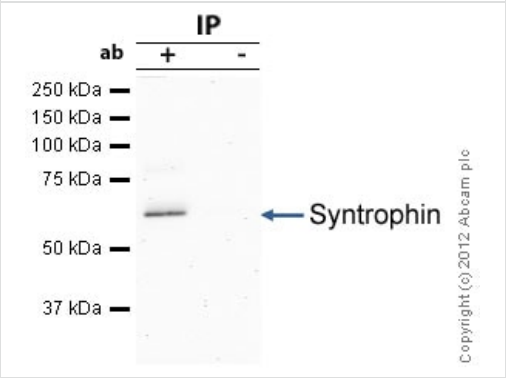
Immunocytochemistry/ Immunofluorescence - Anti-Syntrophin antibody [1351] (ab11425)

Immunocytochemistry/Immunofluorescence analysis of A2058 cells labeling Syntrophin (green) with ab11425 at 1/20. F-Actin staining with Phalloidin (red) and nuclei with DAPI (blue). Cells were fixed with formaldehyde and incubated with the primary antibody overnight at 4°C. A DyLight 488-conjugated secondary antibody was used. 60X magnification. Right - negative control.



Immunocytochemistry/ Immunofluorescence - Anti-Syntrophin antibody [1351] (ab11425)

Immunocytochemistry/Immunofluorescence analysis of 293 cells labeling Syntrophin (green) with ab11425 at 1/20. F-Actin staining with Phalloidin (red) and nuclei with DAPI (blue). Cells were fixed with formaldehyde and incubated with the primary antibody overnight at 4°C. A DyLight 488-conjugated secondary antibody was used. 60X magnification. Right - negative control.



Immunoprecipitation - Anti-Syntrophin antibody [1351] (ab11425)

Syntrophin was immunoprecipitated using 0.5mg Mouse Skeletal Muscle tissue lysate, 5µg of Mouse monoclonal to Syntrophin and 50µl of protein G magnetic beads (+). No antibody was added to the control (-).
The antibody was incubated under agitation with Protein G beads for 10min, Mouse Skeletal Muscle tissue lysate lysate diluted in RIPA buffer was added to each sample and incubated for a further 10min under agitation.
Proteins were eluted by addition of 40µl SDS loading buffer and incubated for 10min at 70^{o}C; 10µl of each sample was separated on a SDS PAGE gel, transferred to a nitrocellulose membrane, blocked with 5% BSA and probed with ab11425.
Secondary: Goat polyclonal to mouse IgG light chain specific (HRP) at 1/5000 dilution.
Band: 58kDa; Syntrophin

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