SANTA CRUZ BIOTECHNOLOGY, INC.

α-Syntrophin (D-7): sc-166634

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Syntrophins are PDZ-domain-containing proteins that facilitate the recruitment of signaling proteins such as NOS1 to the dystrophin-associated protein complex. The Syntrophins are a family of structurally related proteins that contain multiple protein interaction motifs. Syntrophins associate directly with dystrophin, the product of the Duchenne muscular dystrophy locus and its homologs. α-Syntrophin has an important role in synapse formation and in the organization of utrophin, acetylcholine receptor and acetylcholinesterase at the neuromuscular synapse. Specifically, NOS1 binds to α-Syntrophin at muscle sarcolemma. β2-Syntrophin is a modular adapter and in muscle cells interacts with members of the dystrophin family, which includes utrophin.

REFERENCES

1. Newey, S.E., et al. 2000. Alternative splicing of dystrobrevin regulates the stoichiometry of syntrophin binding to the dystrophin protein complex. Curr. Biol. 10: 1295-1298.
2. Abdelmoity, A., et al. 2000. Neuronal nitric oxide synthase localizes through multiple structural motifs to the sarcolemma in mouse myotubes. FEBS Lett. 482: 65-70.
3. Adams, M.E., et al. 2000. Absence of α-Syntrophin leads to structurally aberrant neuromuscular synapses deficient in utrophin. J. Cell Biol. 150: 1385-1398.
4. Ort, T., et al. 2000. The receptor tyrosine phosphatase-like protein ICA512 binds the PDZ domains of β2-Syntrophin and nNOS in pancreatic β-cells. Eur. J. Cell Biol. 79: 621-630.

CHROMOSOMAL LOCATION

Genetic locus: SNTA1 (human) mapping to 20q11.21; Snta1 (mouse) mapping to 2 H1.

SOURCE

α-Syntrophin (D-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 427-461 near the C-terminus of α-Syntrophin of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

α-Syntrophin (D-7) is available conjugated to agarose (sc-166634 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166634 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166634 PE), fluorescein (sc-166634 FITC), Alexa Fluor® 488 (sc-166634 AF488), Alexa Fluor® 546 (sc-166634 AF546), Alexa Fluor® 594 (sc-166634 AF594) or Alexa Fluor® 647 (sc-166634 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166634 AF680) or Alexa Fluor® 790 (sc-166634 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166634 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

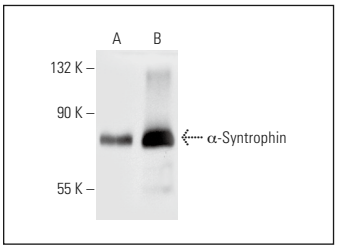
α-Syntrophin (D-7) is recommended for detection of α-Syntrophin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for α-Syntrophin siRNA (h): sc-43435, α-Syntrophin siRNA (m): sc-43436, α-Syntrophin shRNA Plasmid (h): sc-43435-SH, α-Syntrophin shRNA Plasmid (m): sc-43436-SH, α-Syntrophin shRNA (h) Lentiviral Particles: sc-43435-V and α-Syntrophin shRNA (m) Lentiviral Particles: sc-43436-V.

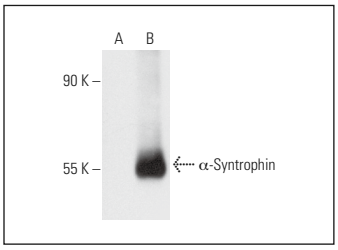
Molecular Weight of α-Syntrophin: 58 kDa.

Positive Controls: Sol8 cell lysate: sc-2249, α-Syntrophin (m): 293T Lysate: sc-126356 or L8 cell lysate: sc-3807.

DATA



α-Syntrophin (D-7): sc-166634. Western blot analysis of α-Syntrophin expression in Sol8 (**A**) and L8 (**B**) whole cell lysates.



α-Syntrophin (D-7): sc-166634. Western blot analysis of α-Syntrophin expression in non-transfected: sc-117752 (**A**) and mouse α-Syntrophin transfected: sc-126356 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Sato, J., et al. 2018. Involvement of aquaporin-4 in laminin-enhanced process formation of mouse astrocytes in 2D culture: roles of dystroglycan and α-Syntrophin in aquaporin-4 expression. J. Neurochem. 147: 495-513.
2. Villar-Conde, S., et al. 2021. The human hippocampus in Parkinson's disease: an integrative stereological and proteomic study. J. Parkinsons Dis. 11: 1345-1365.
3. Wang, F.X., et al. 2022. β-hydroxybutyrate attenuates painful diabetic neuropathy via restoration of the aquaporin-4 polarity in the spinal glymphatic system. Front. Neurosci. 16: 926128.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.