

α -Syntrophin (D-7): sc-166634

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. β 2-Syntrophin is a modular adapter and in muscle cells interacts with members of the dystrophin family, which includes utrophin.

REFERENCES

- 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.
- 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.
- 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.
- Ort, T., et al. 2000. The receptor tyrosine phosphatase-like protein ICA512 binds the PDZ domains of β 2-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 μ g IgG₁ 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 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166634 HRP), 200 μ g/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 μ g/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 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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

APPLICATIONS

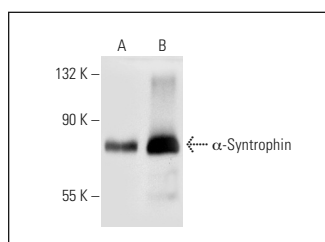
α -Syntrophin (D-7) is recommended for detection of α -Syntrophin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50,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

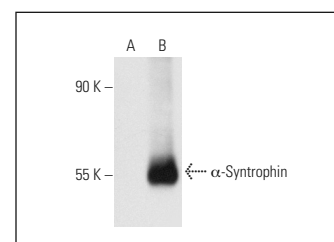
Molecular Weight of α -Syntrophin: 58 kDa.

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

- 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.
- 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.
- 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.

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