SANTA CRUZ BIOTECHNOLOGY, INC.

α-Syntrophin (C-7): sc-166207

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.
5. Rocco, P., et al. 2000. Brazilian family with pure autosomal dominant spastic paraplegia maps to 8q: analysis of muscle β1-Syntrophin. Am. J. Med. Genet. 92: 122-127.

CHROMOSOMAL LOCATION

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

SOURCE

α-Syntrophin (C-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-39 at the N-terminus of α-Syntrophin of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-166207 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

α-Syntrophin (C-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.

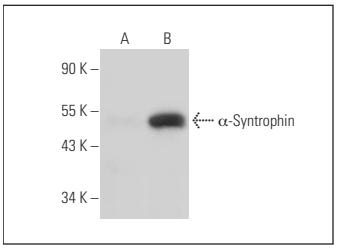
Molecular Weight of α-Syntrophin: 58 kDa.

Positive Controls: α-Syntrophin (h): 293T Lysate: sc-113719, Sol8 cell lysate: sc-2249 or NRK whole cell lysate: sc-364197.

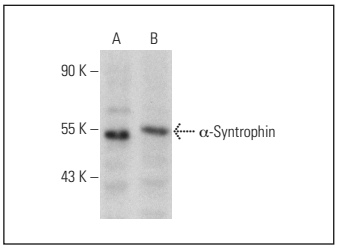
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



α-Syntrophin (C-7): sc-166207. Western blot analysis of α-Syntrophin expression in non-transfected: sc-117752 (**A**) and human α-Syntrophin transfected: sc-113719 (**B**) 293T whole cell lysates.



α-Syntrophin (C-7): sc-166207. Western blot analysis of α-Syntrophin expression in Sol8 (**A**) and NRK (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ramírez-Sánchez, I., et al. 2012. Caveolae and non-caveolae lipid raft microdomains of human umbilical vein endothelial cells contain utrophin-associated protein complexes. Biochimie 94: 1884-1890.
2. Capitanio, D., et al. 2022. Molecular fingerprint of BMD patients lacking a portion in the rod domain of dystrophin. Int. J. Mol. Sci. 23: 2624.

RESEARCH USE

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