

# $\alpha$ -Syntrophin (F-1): sc-166635

## 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.  $\alpha$ -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  $\alpha$ -Syntrophin at muscle sarcolemma.  $\beta$ 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  $\alpha$ -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  $\beta$ 2-Syntrophin and nNOS in pancreatic  $\beta$ -cells. *Eur. J. Cell Biol.* 79: 621-630.
- Rocco, P., et al. 2000. Brazilian family with pure autosomal dominant spastic paraplegia maps to 8q: analysis of muscle  $\beta$ 1-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

$\alpha$ -Syntrophin (F-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 427-461 near the C-terminus of  $\alpha$ -Syntrophin of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> 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-166635 P, (100  $\mu$ g 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

$\alpha$ -Syntrophin (F-1) is recommended for detection of  $\alpha$ -Syntrophin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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  $\alpha$ -Syntrophin siRNA (h): sc-43435,  $\alpha$ -Syntrophin siRNA (m): sc-43436,  $\alpha$ -Syntrophin shRNA Plasmid (h): sc-43435-SH,  $\alpha$ -Syntrophin shRNA Plasmid (m): sc-43436-SH,  $\alpha$ -Syntrophin shRNA (h) Lentiviral Particles: sc-43435-V and  $\alpha$ -Syntrophin shRNA (m) Lentiviral Particles: sc-43436-V.

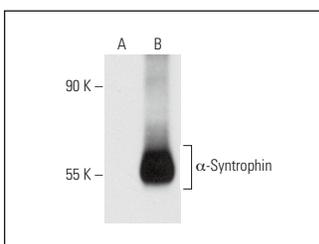
Molecular Weight of  $\alpha$ -Syntrophin: 58 kDa.

Positive Controls: A-673 cell lysate: sc-2414,  $\alpha$ -Syntrophin (m): 293T Lysate: sc-126356 or rat skeletal muscle extract: sc-364810.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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



$\alpha$ -Syntrophin (F-1): sc-166635. Western blot analysis of  $\alpha$ -Syntrophin expression in non-transfected: sc-117752 (A) and mouse  $\alpha$ -Syntrophin transfected: sc-126356 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Park, S., et al. 2019. Establishment of PITX3-mCherry knock-in reporter human embryonic stem cell line (WAE009-A-23). *Stem Cell Res.* 39: 101499.
- Dong, T., et al. 2021. The establishment of a homozygous SNTA1 knockout human embryonic stem cell line (WAE009-A-50) using the CRISPR/Cas9 system. *Stem Cell Res.* 51: 102196.

## RESEARCH USE

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