SANTA CRUZ BIOTECHNOLOGY, INC.

α-sarcoglycan (D-7): sc-271321

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The sarcoglycan transmembrane proteins are members of the dystrophin complex. Sarcoglycans cluster together to form a complex, which is localized in the cell membrane of skeletal, cardiac, and smooth muscle fibers. Four sarcoglycan subunit proteins, designated α-, β-, γ- and δ-sarcoglycan, form a complex on the skeletal muscle cell surface membrane. A genetic defect in any one of these proteins causes the loss or marked decrease of the whole sarcoglycan complex, which is observed in the autosomal recessive muscular dystrophy, sarcoglycanopathy. In smooth muscle, β- and δ-sarcoglycans are associated with ε-sarcoglycan, a glycoprotein homologous to α-sarcoglycan. Additionally, a complete deficiency in δ-sarcoglycan is the cause of the Syrian hamster BIO.14 cardiomyopathy.

REFERENCES

1. Barresi, R., et al. 2000. Expression of γ-sarcoglycan in smooth muscle and its interaction with the smooth muscle sarcoglycan-sarcospan complex. J. Biol. Chem. 275: 38554-38560.
2. Hack, A.A., et al. 2000. Differential requirement for individual sarcoglycans and dystrophin in the assembly and function of the dystrophin-glycoprotein complex. J. Cell Sci. 113: 2535-2544.

CHROMOSOMAL LOCATION

Genetic locus: SGCA (human) mapping to 17q21.33; Sgca (mouse) mapping to 11 D.

SOURCE

α-sarcoglycan (D-7) is a mouse monoclonal antibody raised against amino acids 24-105 mapping within an extracellular domain of α-sarcoglycan 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-sarcoglycan (D-7) is available conjugated to agarose (sc-271321 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271321 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271321 PE), fluorescein (sc-271321 FITC), Alexa Fluor® 488 (sc-271321 AF488), Alexa Fluor® 546 (sc-271321 AF546), Alexa Fluor® 594 (sc-271321 AF594) or Alexa Fluor® 647 (sc-271321 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271321 AF680) or Alexa Fluor® 790 (sc-271321 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, α-sarcoglycan (D-7) is available conjugated to biotin (sc-271321 B), 200 µg/ml, for WB, IHC(P) and ELISA.

STORAGE

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

APPLICATIONS

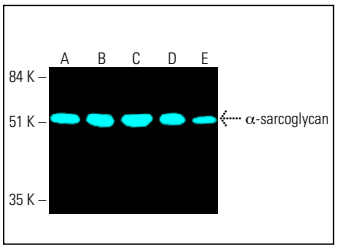
α-sarcoglycan (D-7) is recommended for detection of α-sarcoglycan of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, 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-sarcoglycan siRNA (h): sc-43416, α-sarcoglycan siRNA (m): sc-43417, α-sarcoglycan shRNA Plasmid (h): sc-43416-SH, α-sarcoglycan shRNA Plasmid (m): sc-43417-SH, α-sarcoglycan shRNA (h) Lentiviral Particles: sc-43416-V and α-sarcoglycan shRNA (m) Lentiviral Particles: sc-43417-V.

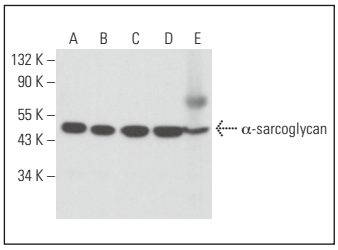
Molecular Weight of α-sarcoglycan: 50 kDa.

Positive Controls: BC_3H1 cell lysate: sc-2299, A-673 cell lysate: sc-2414 or A-10 cell lysate: sc-3806.

DATA



α-sarcoglycan (D-7): sc-271321. Fluorescent western blot analysis of α-sarcoglycan expression in HeLa (**A**), A-673 (**B**), Sol8 (**C**), K-562 (**D**) and NIH/3T3 (**E**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_1 BP-CFL 647: sc-533664.



α-sarcoglycan (D-7): sc-271321. Western blot analysis of α-sarcoglycan expression in A-673 (**A**), Hep G2 (**B**), BC_3H1 (**C**) and A-10 (**D**) whole cell lysates and rat heart tissue extract (**E**).

SELECT PRODUCT CITATIONS

1. Madison, R.D. and Robinson, G.A. 2019. Muscle-derived extracellular vesicles influence motor neuron regeneration accuracy. Neuroscience 419: 46-59.
2. Brahmer, A., et al. 2019. Platelets, endothelial cells and leukocytes contribute to the exercise-triggered release of extracellular vesicles into the circulation. J. Extracell. Vesicles 8: 1615820.
3. Ismaeel, A., et al. 2023. Extracellular vesicle distribution and localization in skeletal muscle at rest and following disuse atrophy. Skelet. Muscle 13: 6.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.