SANTA CRUZ BIOTECHNOLOGY, INC.

Sarcospan (m): 293T Lysate: sc-123354

BACKGROUND

The dystrophin-glycoprotein complex (DGC) is a multisubunit protein complex that spans the sarcolemma and forms a link between the subsarcolemmal cytoskeleton and the extracellular matrix. Defects in components of the DGC cause muscular dystrophy, indicating that the DGC plays important roles in muscular function and viability. Sarcospan (also designated K-Ras oncogene-associated protein and Kirstein-Ras-associated protein), a member of this complex, contains four transmembrane spanning helices with intracellular N- and C-terminal domains. The expression of Sarcospan is reduced in muscle from patients with Duchenne muscular dystrophy. Sarcospan mRNAs are expressed in a range of cell lines, tumors and normal tissue, with very high expression levels in muscle. Two isoforms of Sarcospan, SPN1 and SPN2, are produced by alternative splicing. SPN1 is expressed in heart and skeletal muscle, whereas SPN2 is expressed in heart, skeletal muscle, thymus, prostate, testis, ovary, small intestine, colon and spleen. The sarcoglycan complex in striated muscle is a heterotetrameric unit integrally associated with Sarcospan in the dystrophin-glycoprotein complex and it is also linked to the signaling protein, neural nitric oxide synthase, through α-syntrophin that is associated with dystrobrevin.

REFERENCES

1. Heighway, J., Betticher, D.C., Hoban, P.R., Altermatt, H.J. and Cowen, R. 1996. Coamplification in tumors of KRAS2, type 2 inositol 1,4,5 triphosphate receptor gene, and a novel human gene, KRAG. Genomics 35: 207-214.
2. Crosbie, R.H., Heighway, J., Venzke, D.P., Lee, J.C. and Campbell, K.P. 1997. Sarcospan, the 25-kDa transmembrane component of the dystrophin-glycoprotein complex. J. Biol. Chem. 272: 31221-31224.
3. Grady, R.M., Zhou, H., Cunningham, J.M., Henry, M.D., Campbell, K.P. and Sanes, J.R. 2000. Maturation and maintenance of the neuromuscular synapse: genetic evidence for roles of the dystrophin—glycoprotein complex. Neuron 25: 279-293.
4. Lebakken, C.S., Venzke, D.P., Hrstka, R.F., Consolino, C.M., Faulkner, J.A., Williamson, R.A. and Campbell, K.P. 2000. Sarcospan-deficient mice maintain normal muscle function. Mol. Cell. Biol. 20: 1669-1677.
5. Barresi, R., Moore, S.A., Stolle, C.A., Mendell, J.R. and Campbell, K.P. 2000. Expression of γ-sarcoglycan in smooth muscle and its interaction with the smooth muscle sarcoglycan-sarcospan complex. J. Biol. Chem. 275: 38554-38560.
6. Yoshida, M., Hama, H., Ishikawa-Sakurai, M., Imamura, M., Mizuno, Y., Araishi, K., Wakabayashi-Takai, E., Noguchi, S., Sasaoka, T. and Ozawa, E. 2000. Biochemical evidence for association of dystrobrevin with the sarcoglycan-sarcospan complex as a basis for understanding sarcoglycanopathy. Hum. Mol. Genet. 9: 1033-1040.

CHROMOSOMAL LOCATION

Genetic locus: Sspn (mouse) mapping to 6 G3.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PRODUCT

Sarcospan (m): 293T Lysate represents a lysate of mouse Sarcospan transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

Sarcospan (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Sarcospan antibodies. Recommended use: 10-20 µl per lane.

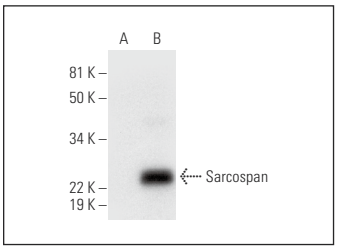
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Sarcospan (E-2): sc-393187 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Sarcospan expression in Sarcospan transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



Sarcospan (E-2): sc-393187. Western blot analysis of Sarcospan expression in non-transfected: sc-117752 (**A**) and mouse Sarcospan transfected: sc-123354 (**B**) 293T whole cell lysates.

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.