SANTA CRUZ BIOTECHNOLOGY, INC.

Sarcospan (C-20): sc-16760

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 associated with dystrobrevin.

REFERENCES

1. Heighway, J., et al. 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., et al. 1997. Sarcospan, the 25-kDa transmembrane component of the dystrophin-gllycoprotein complex. J. Biol. Chem. 272: 31221-31224.
3. Grady, R.M., et al. 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., et al. 2000. Sarcospan-deficient mice maintain normal muscle function. Mol. Cell. Biol. 20: 1669-1677.
5. 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.
6. Yoshida, M., et al. 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 (human) mapping to 12p12.1; Sspn (mouse) mapping to 6 G3.

SOURCE

Sarcospan (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Sarcospan of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-16760 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Sarcospan (C-20) is recommended for detection of Sarcospan of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Sarcospan (C-20) is also recommended for detection of Sarcospan in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Sarcospan siRNA (h): sc-43426, Sarcospan siRNA (m): sc-43427, Sarcospan shRNA Plasmid (h): sc-43426-SH, Sarcospan shRNA Plasmid (m): sc-43427-SH, Sarcospan shRNA (h) Lentiviral Particles: sc-43426-V and Sarcospan shRNA (m) Lentiviral Particles: sc-43427-V.

Molecular Weight of Sarcospan: 25 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Ramirez-Sanchez, I., et al. 2004. Expression analysis of the SG-SSPN complex in smooth muscle and endothelial cells of human umbilical cord vessels. J. Vasc. Res. 42: 1-7.

STORAGE

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