SANTA CRUZ BIOTECHNOLOGY, INC.

γ-sarcoglycan (E-8): sc-515628

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.
3. Enigk, R.E., et al. 2001. Cellular and molecular properties of α-dystrobrevin in skeletal muscle. Front. Biosci. 6: D53-D64.
4. Politano, L., et al. 2001. Evaluation of cardiac and respiratory involvement in sarcoglycanopathies. Neuromuscul. Disord. 11: 178-185.

CHROMOSOMAL LOCATION

Genetic locus: SGCG (human) mapping to 13q12.12.

SOURCE

γ-sarcoglycan (E-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 221-246 within an internal region of γ-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.

γ-sarcoglycan (E-8) is available conjugated to agarose (sc-515628 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515628 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515628 PE), fluorescein (sc-515628 FITC), Alexa Fluor® 488 (sc-515628 AF488), Alexa Fluor® 546 (sc-515628 AF546), Alexa Fluor® 594 (sc-515628 AF594) or Alexa Fluor® 647 (sc-515628 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515628 AF680) or Alexa Fluor® 790 (sc-515628 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515628 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

γ-sarcoglycan (E-8) is recommended for detection of γ-sarcoglycan of 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 γ-sarcoglycan siRNA (h): sc-43424, γ-sarcoglycan shRNA Plasmid (h): sc-43424-SH and γ-sarcoglycan shRNA (h) Lentiviral Particles: sc-43424-V.

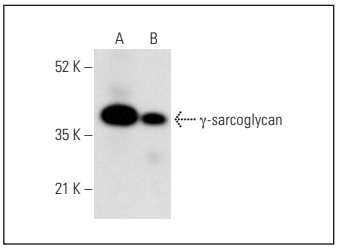
Molecular Weight of γ-sarcoglycan: 35 kDa.

Positive Controls: human skeletal muscle extract: sc-363776, human heart extract: sc-363763 or human fetal muscle tissue extract.

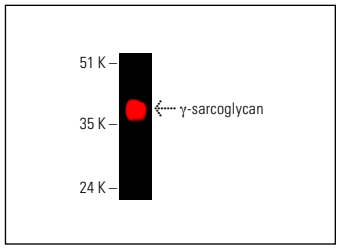
RECOMMENDED SUPPORT REAGENTS

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



γ-sarcoglycan (E-8): sc-515628. Western blot analysis of γ-sarcoglycan expression in human heart (**A**) and human fetal muscle (**B**) tissue extracts.



γ-sarcoglycan (E-8): sc-515628. Near-Infrared western blot analysis of γ-sarcoglycan expression in human skeletal muscle tissue extract. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_1 BP-CFL 790: sc-533666.

SELECT PRODUCT CITATIONS

1. Jana, S., et al. 2018. Disparate remodeling of the extracellular matrix and proteoglycans in failing pediatric versus adult hearts. J. Am. Heart Assoc. 7: e010427.

STORAGE

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

RESEARCH USE

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