

# $\beta$ -sarcoglycan (RO-17): sc-100956

## 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  $\alpha$ -,  $\beta$ -,  $\gamma$ - and  $\delta$ -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,  $\beta$ - and  $\delta$ -sarcoglycans are associated with  $\epsilon$ -sarcoglycan, a glycoprotein homologous to  $\alpha$ -sarcoglycan. Additionally, a complete deficiency in  $\delta$ -sarcoglycan is the cause of the Syrian hamster BIO.14 cardiomyopathy.

## REFERENCE

1. Barresi, R., et al. 2000. Expression of  $\gamma$ -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: SGCB (human) mapping to 4q12; Sgcb (mouse) mapping to 5 C3.3.

## SOURCE

$\beta$ -sarcoglycan (RO-17) is a mouse monoclonal antibody raised against recombinant  $\beta$ -sarcoglycan of human origin.

## PRODUCT

Each vial contains 50  $\mu$ g IgG<sub>2a</sub> kappa light chain in 0.5 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

$\beta$ -sarcoglycan (RO-17) is recommended for detection of  $\beta$ -sarcoglycan of mouse, rat and human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:5000), immunoprecipitation [1-2  $\mu$ l per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution to be determined by researcher, dilution range 1:100-1:5000), immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:50-1:2500) and solid phase ELISA (starting dilution to be determined by researcher, dilution range 1:100-1:5000).

Suitable for use as control antibody for  $\beta$ -sarcoglycan siRNA (h): sc-43418,  $\beta$ -sarcoglycan siRNA (m): sc-43419,  $\beta$ -sarcoglycan shRNA Plasmid (h): sc-43418-SH,  $\beta$ -sarcoglycan shRNA Plasmid (m): sc-43419-SH,  $\beta$ -sarcoglycan shRNA (h) Lentiviral Particles: sc-43418-V and  $\beta$ -sarcoglycan shRNA (m) Lentiviral Particles: sc-43419-V.

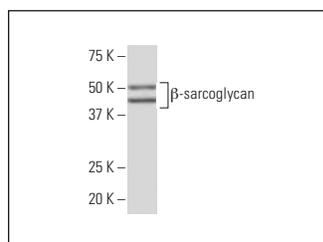
Molecular Weight of  $\beta$ -sarcoglycan: 43 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206.

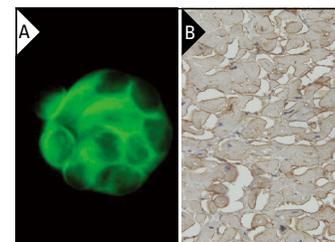
## RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



$\beta$ -sarcoglycan (RO-17): sc-100956. Western blot analysis of  $\beta$ -sarcoglycan expression in MCF7 whole cell lysate.



$\beta$ -sarcoglycan (RO-17): sc-100956. Immunofluorescence staining of paraformaldehyde-fixed MCF7 cells showing membrane and cytoplasmic localization (A). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human heart tissue showing membrane and cytoplasmic localization (B).

## SELECT PRODUCT CITATIONS

1. Shi, Z., et al. 2010. The neuroprotective effect of Batch-2, an aqueous extract from cat's claw (*Uncaria tomentosa*) on 6-OHDA-induced SH-SY5Y cell damage. *Prog. Biochem. Biophys.* 37: 769-778.
2. Vallese, D., et al. 2013. The Rag2-Il2rb-Dmd<sup>-/-</sup> mouse: a novel dystrophic and immunodeficient model to assess innovating therapeutic strategies for muscular dystrophies. *Mol. Ther.* 21: 1950-1957.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.