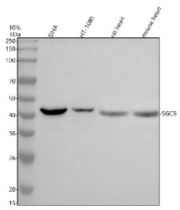
SGCB Antibody / Beta Sarcoglycan (FY12442)

Catalog No.	Formulation	Size
FY12442	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q16585
Applications	Western Blot : 0.25-0.5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This SGCB antibody is available for research use only.



Western blot analysis of Beta Sarcoglycan/SGCB using anti-SGCB antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human SIHA whole cell lysates, Lane 2: human HT1080 whole cell lysates, Lane 3: rat heart tissue lysates, Lane 4: mouse heart tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-SGCB antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. SGCB (~35 kDa predicted) was detected as a major band at 40-45 kDa, consistent with the glycosylated, mature form of beta-sarcoglycan.

Description

SGCB antibody recognizes Beta sarcoglycan, a transmembrane glycoprotein that forms part of the dystrophin-associated glycoprotein complex (DGC) in muscle cells. This complex stabilizes the sarcolemma and links the cytoskeleton to the

extracellular matrix. The SGCB gene encodes the beta subunit of the sarcoglycan complex, which also includes alpha, gamma, and delta sarcoglycans. Mutations in SGCB cause limb-girdle muscular dystrophy type 2E (LGMD2E), characterized by progressive muscle weakness and degeneration. The SGCB antibody is used extensively in muscular dystrophy research, enabling analysis of sarcoglycan expression, localization, and pathological loss in patient samples and model systems.

Beta sarcoglycan is a 318-amino acid membrane protein encoded on human chromosome 4q12. It contains a large extracellular domain with multiple N-glycosylation sites, a single transmembrane segment, and a short cytoplasmic tail. Proper assembly of the sarcoglycan complex is essential for maintaining membrane integrity during muscle contraction. Loss or misfolding of any component can destabilize the complex and lead to muscle fiber damage. Immunohistochemistry with SGCB antibody reveals strong sarcolemmal staining in normal skeletal and cardiac muscle, whereas dystrophic samples often show complete or partial absence of the protein.

The SGCB antibody is valuable for diagnostic and mechanistic studies of muscular dystrophies. In western blot, beta sarcoglycan is typically detected at 43Ã¯Â¿Â½45 kDa. Its expression patterns provide insights into disease progression, compensatory mechanisms, and the effectiveness of gene replacement therapies. Research has shown that restoring SGCB expression in animal models can reassemble the DGC and improve muscle function, highlighting its potential as a therapeutic target. Moreover, beta sarcoglycan plays roles in cardiomyocyte adhesion and signal transduction, extending its relevance beyond skeletal muscle.

NSJ Bioreagents supplies validated SGCB antibodies compatible with immunohistochemistry, immunofluorescence, and western blotting, ensuring reliable detection in human and animal tissues. These reagents support ongoing research into sarcolemmal stability, muscular dystrophy pathogenesis, and therapeutic intervention strategies that aim to restore DGC integrity and muscle resilience.

Application Notes

Optimal dilution of the SGCB antibody should be determined by the researcher.

Immunogen

E.coli-derived human Beta Sarcoglycan/SGCB recombinant protein (Position: E101-H318) was used as the immunogen for the SGCB antibody.

Storage

After reconstitution, the SGCB antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.