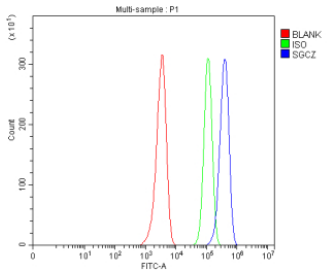
SGCZ Antibody / Sarcoglycan zeta (FY13275)

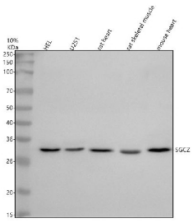
Catalog No.	Formulation	Size
FY13275	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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	Q96LD1
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This SGCZ antibody is available for research use only.



Flow Cytometry analysis of HEL cells using anti-SGCZ antibody. Overlay histogram showing HEL cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-SGCZ antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of SGCZ using anti-SGCZ antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human HEL whole cell lysates, Lane 2: human U251 whole cell lysates, Lane 3: rat heart tissue lysates, Lane 4: rat skeletal muscle tissue lysates, Lane 5: 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-SGCZ 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. A specific band was detected for SGCZ at approximately 33 kDa. The expected molecular weight of SGCZ is ~33 kDa.

Description

SGCZ antibody detects Sarcoglycan zeta, a transmembrane glycoprotein that forms part of the sarcoglycan complex within the dystrophin-associated glycoprotein complex (DGC). The UniProt recommended name is Sarcoglycan zeta (SGCZ). This protein contributes to the mechanical stability of muscle cell membranes and signal transduction between the extracellular matrix and cytoskeleton.

Functionally, SGCZ antibody identifies a 243-amino-acid single-pass membrane protein primarily expressed in skeletal and cardiac muscle. SGCZ associates with alpha-, beta-, gamma-, and delta-sarcoglycans to form a heterotetrameric complex that links dystrophin to the sarcolemma. This interaction is critical for maintaining membrane integrity during muscle contraction and relaxation cycles. SGCZ also participates in intracellular signaling that regulates calcium handling and muscle fiber repair.

The SGCZ gene is located on chromosome 8p22 and is expressed in skeletal muscle, heart, and smooth muscle tissues. Its transcription is regulated by myogenic factors including MYOD1 and MEF2, aligning expression with muscle differentiation and regeneration. SGCZ contributes to muscle architecture by connecting the cytoskeleton to the extracellular matrix through dystrophin and laminin interactions.

Pathologically, mutations in SGCZ cause limb-girdle muscular dystrophy type 2C-related phenotypes and contribute to sarcoglycanopathy spectrum disorders. Deficiency leads to sarcolemma fragility, fiber necrosis, and progressive muscle weakness. Reduced expression has also been observed in cardiomyopathies, where it contributes to cardiac dysfunction. Research using SGCZ antibody supports studies in muscle disease, sarcolemma structure, and dystrophin complex biology.

SGCZ antibody is validated for western blotting, immunofluorescence, and immunohistochemistry to detect membrane glycoproteins in muscle tissue. NSJ Bioreagents provides SGCZ antibody reagents optimized for studies in muscular dystrophy, sarcolemmal stability, and myogenesis.

Structurally, Sarcoglycan zeta contains an extracellular glycosylated domain and a short cytoplasmic tail anchoring it to the dystrophin-associated complex. It interacts directly with beta- and delta-sarcoglycans and indirectly stabilizes dystrophin. This antibody facilitates exploration of SGCZ's role in muscle membrane integrity, mechanical signaling, and dystrophic pathology.

Application Notes

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

Immunogen

E.coli-derived human SGCZ recombinant protein (Position: M1-L245) was used as the immunogen for the SGCZ antibody.

Storage

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