

DESCRIPTION

Species Reactivity	Human
Specificity	Detects a synthetic peptide specific for Human SGCG around amino acid 190 in Direct ELISA.
Source	Monoclonal Mouse IgG ₁ Clone # 1112101
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Synthetic Peptide Accession # Q13326
Conjugate	Alexa Fluor 532 Excitation Wavelength: 534 nm Emission Wavelength: 553 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

Sarcoglycan gamma (SGCG) is a transmembrane protein and a key component of the dystrophin-associated glycoprotein complex (DGC), with a molecular weight of approximately 35 kDa. The sarcoglycan complex, which includes SGCG, is critical for maintaining the structural integrity of muscle cell membranes and for linking the actin cytoskeleton to the extracellular matrix. SGCG is predominantly expressed in skeletal and cardiac muscle, where it plays a crucial role in stabilizing the muscle membrane during contraction. Mutations in the SGCG gene are associated with limb-girdle muscular dystrophy type 2C (LGMD2C), a progressive muscular dystrophy characterized by muscle weakness and membrane instability. Loss of SGCG function leads to disruption of the DGC, resulting in increased susceptibility to muscle membrane damage and impaired muscle regeneration. Recent studies suggest that SGCG may also be involved in signaling pathways regulating muscle homeostasis and repair. Its critical role in muscle integrity, disease pathogenesis, and signaling underscores its potential as a therapeutic target for the treatment of muscular dystrophies.

References:

1. Hack AA, Groh ME, McNally EM. Sarcoglycans in muscular dystrophy. *Microsc Res Tech.* 2000 Feb 1-15;48(3-4):167-80. doi: 10.1002/(SICI)1097-0029(20000201/15)48:3/43.0.CO;2-T. PMID: 10679964.
2. Groh S, Zong H, Goddeeris MM, Lebakken CS, Venzke D, Pessin JE, Campbell KP. Sarcoglycan complex: implications for metabolic defects in muscular dystrophies. *J Biol Chem.* 2009 Jul 17;284(29):19178-82. doi: 10.1074/jbc.C109.010728. Epub 2009 Jun 3. PMID: 19494113; PMCID: PMC2740540.
3. Bushby KM. The limb-girdle muscular dystrophies-multiple genes, multiple mechanisms. *Hum Mol Genet.* 1999;8(10):1875-82. doi: 10.1093/hmg/8.10.1875. PMID: 10469840.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.