

# Triadin (C-12): sc-33391

## BACKGROUND

Triadin is a junctional terminal cisternae protein found mainly in human skeletal muscle. The gene TRDN which encodes for the protein maps to chromosome 6q22.31. Triadin, a type II membrane protein, is involved in anchoring calsequestrin to the sarcoplasmic reticulum, allowing its coupling with the ryanodine receptor (RyR). Triadin inhibits the calcium channel activity of ryanodine receptor in skeletal muscle. It co-localizes with RyR in the junctional sarcoplasmic reticulum membrane.

## REFERENCES

- Caswell, A.H., et al. 1991. Localization and partial characterization of the oligomeric disulfide-linked molecular weight 95 kDa protein (Triadin) which binds the ryanodine and dihydropyridine receptors in skeletal muscle triadin vesicles. *Biochemistry* 30: 7507-7513.
- Flucher, B.E., et al. 1993. Triad formation: organization and function of the sarcoplasmic reticulum calcium release channel and Triadin in normal and dysgenic muscle *in vitro*. *J. Cell Biol.* 123: 1161-1174.
- Knudson, C.M., et al. 1993. Biochemical characterization of ultrastructural localization of a major junctional sarcoplasmic reticulum glycoprotein (Triadin). *J. Biol. Chem.* 268: 12637-12645.
- Taske, N.L., et al. 1995. Molecular cloning of the cDNA encoding human skeletal muscle Triadin and its localisation to chromosome 6q22-6q23. *Eur. J. Biochem.* 233: 258-265.
- Ohkura, M., et al. 1998. Dual regulation of the skeletal muscle ryanodine receptor by triadin and calsequestrin. *Biochemistry* 37: 12987-12993.
- Groh, S., et al. 1999. Functional interaction of the cytoplasmic domain of triadin with the skeletal ryanodine receptor. *J. Biol. Chem.* 274: 12278-12283.

## CHROMOSOMAL LOCATION

Genetic locus: TRDN (human) mapping to 6q22.31.

## SOURCE

Triadin (C-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal luminal domain of Triadin of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-33391 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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.

## APPLICATIONS

Triadin (C-12) is recommended for detection of Triadin of human and rat origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (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 Triadin siRNA (h): sc-44413, Triadin shRNA Plasmid (h): sc-44413-SH and Triadin shRNA (h) Lentiviral Particles: sc-44413-V.

Molecular Weight of cardiac Triadin: 40 kDa.

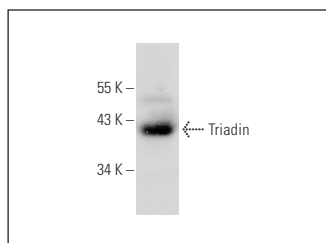
Molecular Weight of skeletal muscle Triadin: 95 kDa.

Positive Controls: rat skeletal muscle extract: sc-364810.

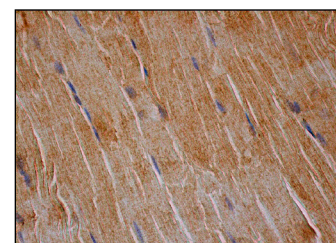
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



Triadin (C-12): sc-33391. Western blot analysis of Triadin expression in rat skeletal muscle tissue extract.



Triadin (C-12): sc-33391. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes.

## SELECT PRODUCT CITATIONS

- Liu, J., et al. 2007. Functional sarcoplasmic reticulum for calcium handling of human embryonic stem cell-derived cardiomyocytes: insights for driven maturation. *Stem Cells* 25: 3038-3044.
- Liu, J., et al. 2009. Facilitated maturation of Ca<sup>2+</sup> handling properties of human embryonic stem cell-derived cardiomyocytes by calsequestrin expression. *Am. J. Physiol., Cell Physiol.* 297: C152-C159.