SANTA CRUZ BIOTECHNOLOGY, INC.

# Leiomodin 1 (S-12): sc-160068

## BACKGROUND

Members of the Leiomodin protein family are closely related to the tropomodulin family of actin filament pointed end-capping proteins. Leiomodins are characterized as actin-binding proteins that acts as strong filament nucleators in muscle cells. Leiomodin 1, also known as 64 kDa autoantigen D1 or SM-Lmod, is a 600 amino acid protein that is highly expressed in a variety of tissues that contain smooth muscle and is expressed at lower levels in thyroid and extraocular muscles. Analyzing sera from patients with Hashimoto thyroiditis with thyroid-associated ophthalmopathy (TAO) revealed that antibodies against Leiomodin 1 had been produced in 8 out of 34 patients, while all 12 normal and nonautoimmune individuals were negative. There are two isoforms of Leiomodin 1, which are produced as a result of alternative splicing events.

## REFERENCES


1. Dong, Q., Ludgate, M. and Vassart, G. 1991. Cloning and sequencing of a novel 64 kDa autoantigen recognized by patients with autoimmune thyroid disease. J. Clin. Endocrinol. Metab. 72: 1375-1381.
2. Zhang, Z.G., Dong, Q., Rodien, P., Alcalde, L., Bernard, N., Boucher, A., Salvi, M., Arthurs, B., Vassart, G.M. and Ludgate, M. 1992. Antibodies in the serum of patients with autoimmune thyroid disorders react with a recombinant 98 amino acid fragment of a full length 64 kDa eye muscle membrane protein which is also expressed in the thyroid. Autoimmunity 13: 151-157.
3. Wall, J.R., Triller, H., Boucher, A., Bernard, N.F., Salvi, M. and Ludgate, M. 1993. Antibodies reactive with an intracellular epitope of a recombinant 64 kDa thyroid and eye muscle protein in patients with thyroid autoimmunity and ophthalmopathy. J. Endocrinol. Invest. 16: 863-868.
4. Bernard, N.F., Nygen, T.N., Tyutyunikov, A., Stolarski, C., Scalise, D., Genovese, C., Hayes, M.B., Ludgate, M. and Wall, J.R. 1994. Antibodies against 1D, a recombinant 64-kDa membrane protein, are associated with ophthalmopathy in patients with thyroid autoimmunity. Clin. Immunol. Immunopathol. 73: 225-233.
5. Conley, C.A. and Fowler, V.M. 1999. Localization of the human 64 kD autoantigen D1 to myofibrils in a subset of extraocular muscle fibers. Curr. Eye Res. 19: 313-322.
6. Conley, C.A. 2001. Leiomodin and tropomodulin in smooth muscle. Am. J. Physiol., Cell Physiol. 280: C1645-C1656.
7. Conley, C.A., Fritz-Six, K.L., Almenar-Queralt, A. and Fowler, V.M. 2001. Leiomodins: larger members of the tropomodulin (Tmod) gene family. Genomics 73: 127-139.
8. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 602715. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/


## CHROMOSOMAL LOCATION

Genetic locus: LMOD1 (human) mapping to 1q32.1; Lmod1 (mouse) mapping to 1 E4.

## SOURCE

Leiomodin 1 (S-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Leiomodin 1 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-160068 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Leiomodin 1 (S-12) is recommended for detection of Leiomodin 1 isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with Leiomodin 2 or Leiomodin 3.

Leiomodin 1 (S-12) is also recommended for detection of Leiomodin 1 isoforms 1 and 2 in additional species, including equine and bovine.

Suitable for use as control antibody for Leiomodin 1 siRNA (h): sc-78983, Leiomodin 1 siRNA (m): sc-146697, Leiomodin 1 shRNA Plasmid (h): sc-78983-SH, Leiomodin 1 shRNA Plasmid (m): sc-146697-SH, Leiomodin 1 shRNA (h) Lentiviral Particles: sc-78983-V and Leiomodin 1 shRNA (m) Lentiviral Particles: sc-146697-V.

Molecular Weight of Leiomodin 1: 64 kDa.

## 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) 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.

## 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 or our catalog for detailed protocols and support products.