



## Leiomodin 2 (E-13): sc-135491

### BACKGROUND

Members of the Leiomodin protein family are closely related to the tropomodulin family of Actin filament pointed end-capping proteins. Leiomodins are Actin-binding proteins that act as strong filament nucleators in muscle cells. Leiomodin 1 is highly expressed in a variety of tissues that contain smooth muscle, therefore it is also known as smooth muscle Leiomodin, or SM-Lmod. Also designated C-Lmod, Leiomodin 3 is found in several types of fetal tissue and is involved in tropomyosin binding. Leiomodin 2, also known as C-LMOD or LMOD2, is a 547 amino acid protein that is specifically expressed in heart and skeletal muscles. Leiomodin 2 binds to tropomyosin and may block the elongation and depolymerization of Actin filaments at their pointed end. Leiomodin 2 is encoded by a gene that is located near the hypertrophic cardiomyopathy locus CMH6 on chromosome 7, suggesting that Leiomodin 2 may be involved in that disease process. Leiomodin 2 is expressed as three alternatively spliced variants.

### REFERENCES

1. Conley, C.A. and Fowler, V.M. 1999. Localization of the human 64kD autoantigen D1 to myofibrils in a subset of extraocular muscle fibers. *Curr. Eye Res.* 19: 313-322.
2. Conley, C.A. 2001. Leiomodin and tropomodulin in smooth muscle. *Am. J. Physiol., Cell Physiol.* 280: C1645-C1656.
3. 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.
4. Kostyukova, A.S. 2007. Leiomodin/tropomyosin interactions are isoform specific. *Arch. Biochem. Biophys.* 465: 227-230.
5. Fujarewicz, K., Jarzab, M., Eszlinger, M., Krohn, K., Paschke, R., Oczko-Wojciechowska, M., Wiench, M., Kukulska, A., Jarzab, B. and Swierniak, A. 2007. A multi-gene approach to differentiate papillary thyroid carcinoma from benign lesions: gene selection using support vector machines with bootstrapping. *Endocr. Relat. Cancer.* 14: 809-826.
6. De Minicis, S., Seki, E., Uchinami, H., Kluwe, J., Zhang, Y., Brenner, D.A. and Schwabe, R.F. 2007. Gene expression profiles during hepatic stellate cell activation in culture and *in vivo*. *Gastroenterology* 132: 1937-1946.
7. Chereau, D., Boczkowska, M., Skwarek-Maruszewska, A., Fujiwara, I., Hayes, D.B., Rebowski, G., Lappalainen, P., Pollard, T.D. and Dominguez, R. 2008. Leiomodin is an Actin filament nucleator in muscle cells. *Science* 320: 239-243.

### CHROMOSOMAL LOCATION

Genetic locus: LMOD2 (human) mapping to 7q31.32; Lmod2 (mouse) mapping to 6 A3.1.

### SOURCE

Leiomodin 2 (E-13) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of Leiomodin 2 of human origin.

### PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-135491 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

Leiomodin 2 (E-13) is recommended for detection of Leiomodin 2 isoforms 1-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with Leiomodin 1 or Leiomodin 3.

Suitable for use as control antibody for Leiomodin 2 siRNA (h): sc-89902, Leiomodin 2 siRNA (m): sc-146698, Leiomodin 2 shRNA Plasmid (h): sc-89902-SH, Leiomodin 2 shRNA Plasmid (m): sc-146698-SH, Leiomodin 2 shRNA (h) Lentiviral Particles: sc-89902-V and Leiomodin 2 shRNA (m) Lentiviral Particles: sc-146698-V.

Molecular Weight of Leiomodin 2: 62 kDa.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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](http://www.scbt.com) or our catalog for detailed protocols and support products.