

# transgelin (1B8): sc-58867

## BACKGROUND

Transgelin, also designated SM22 $\alpha$ , is expressed abundantly in smooth muscle cells. The human transgelin gene (designated TAGLN), which is located on chromosome 11q23.3, encodes a 201 amino acid protein that contains nuclear factor-binding motifs known to regulate transcription in smooth muscle. During embryogenesis, transgelin is expressed in smooth, cardiac and skeletal muscle, but is restricted during late fetal development and adulthood to all vascular and visceral smooth muscle cells and low levels of expression in heart. Transgelin is downregulated in several transformed cell lines, indicating that a reduction of transgelin expression may be an early indicator of the onset of transformation. Transgelin also binds Actin, causing Actin fibers to gel within minutes of binding. Binding of transgelin to Actin occurs at a ratio of 1:6 Actin monomers.

## REFERENCES

- Shapland, C., Hsuan, J.J., Totty, N.F. and Lawson, D. 1993. Purification and properties of transgelin: a transformation and shape change sensitive Actin-gelling protein. *J. Cell Biol.* 121: 1065-1073.
- Kobayashi, R., Kubota, T. and Hidaka, H. 1994. Purification, characterization and partial sequence analysis of a new 25 kDa Actin-binding protein from bovine aorta: an SM22 homolog. *Biochem. Biophys. Res. Commun.* 198: 1275-1280.
- Li, L., Liu, Z., Mercer, B., Overbeek, P. and Olson, E. 1997. Evidence for serum response factor-mediated regulatory networks governing SM22a transcription in smooth, skeletal and cardiac muscle cells. *Dev. Biol.* 187: 311-321.
- Lawson, D., Harrison, M. and Shapland, C. 1997. Fibroblast transgelin and smooth muscle SM22a are the same protein, the expression of which is downregulated in many cell lines. *Cell Motil. Cytoskeleton* 38: 250-257.
- Camoretti-Mercado, B., Forsythe, S.M., LeBeau, M.M., Espinosa, R., Vieira, J.E., Halayko, A.J., Willadsen, S., Kurtz, B., Ober, C., Evans, G.A., Thweatt, R., Shapiro, S., Niu, Q., Qin, Y., Padrid, P.A. and Solway, J. 1998. Expression and cytogenetic localization of the human SM22 gene (TAGLN). *Genomics* 49: 452-457.

## CHROMOSOMAL LOCATION

Genetic locus: TAGLN (human) mapping to 11q23.3; Tagln (mouse) mapping to 9 A5.2.

## SOURCE

transgelin (1B8) is a mouse monoclonal antibody raised against purified full length native stomach transgelin of porcine origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

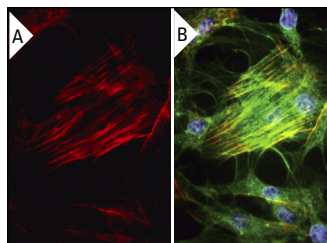
transgelin (1B8) is recommended for detection of transgelin of mouse, rat, human, bovine and porcine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); may cross-react with SM22  $\beta$  isoforms.

Suitable for use as control antibody for transgelin siRNA (h): sc-44163, transgelin siRNA (m): sc-60022, transgelin shRNA Plasmid (h): sc-44163-SH, transgelin shRNA Plasmid (m): sc-60022-SH, transgelin shRNA (h) Lentiviral Particles: sc-44163-V and transgelin shRNA (m) Lentiviral Particles: sc-60022-V.

Molecular Weight of transgelin: 22 kDa.

Positive Controls: U-2 OS cell lysate: sc-2295, Hs68 cell lysate: sc-2230 or WI 38 whole cell lysate.

## DATA



transgelin (1B8): sc-58867. Immunofluorescence staining of a frozen section of porcine coronary artery smooth muscle cells (A) and double immunofluorescent staining showing co-localization of transgelin with smooth muscle Actin (SMA) (B). Kindly provided by Dr. Saverio Sartore at the University of Padua.

## SELECT PRODUCT CITATIONS

- Zhan, R., Leng, X., Liu, X., Wang, X., Gong, J., Yan, L., Wang, L., Wang, Y., Wang, X. and Qian, L.J. 2009. Heat shock protein 70 is secreted from endothelial cells by a non-classical pathway involving exosomes. *Biochem. Biophys. Res. Commun.* 387: 229-233.

## 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) for detailed protocols and support products.