

# transgelin-2 (H-60): sc-292805

## BACKGROUND

Transgelin (also designated SM22 $\alpha$ ), is expressed abundantly in smooth muscle cells. Transgelin-2 (also known as SM22 $\alpha$  homolog) is a homolog of transgelin and is also expressed in smooth muscle cells and by peritoneal B-1 cells. The human transgelin-2 gene (designated TAGLN2), which is located on chromosome 1q23.2, encodes a 199 amino acid protein that contains a Calponin-like repeat and a Calponin-homology (CH) domain. Transgelin-2 may function very similarly to transgelin. 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., et al. 1993. Purification and properties of transgelin: a transformation and shape change sensitive Actin-gelling protein. *J. Cell Biol.* 121: 1065-1073.
- Kobayashi, R., et al. 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., et al. 1997. Evidence for serum response factor-mediated regulatory networks governing SM22 $\alpha$  transcription in smooth, skeletal and cardiac muscle cells. *Dev. Biol.* 187: 311-321.
- Lawson, D., et al. 1997. Fibroblast transgelin and smooth muscle SM22 $\alpha$  are the same protein, the expression of which is downregulated in many cell lines. *Cell Motil. Cytoskeleton* 38: 250-257.
- Camoretti-Mercado, B., et al. 1998. Expression and cytogenetic localization of the human SM22 gene (TAGLN). *Genomics* 49: 452-457.
- Stanier, P., et al. 1998. Paralogous SM22 $\alpha$  (Tagln) genes map to mouse chromosomes 1 and 9: further evidence for a paralogous relationship. *Genomics* 51: 144-147.
- Kultima, K., et al. 2004. Valproic acid teratogenicity: a toxicogenomics approach. *Environ. Health Perspect.* 112: 1225-1235.
- Shi, Y.Y., et al. 2005. Identification and analysis of tumour-associated antigens in hepatocellular carcinoma. *Br. J. Cancer* 92: 929-934.
- Frances, R., et al. 2006. B-1 cells express transgelin 2: unexpected lymphocyte expression of a smooth muscle protein identified by proteomic analysis of peritoneal B-1 cells. *Mol. Immunol.* 43: 2124-2129.

## CHROMOSOMAL LOCATION

Genetic locus: TAGLN2 (human) mapping to 1q23.2; Tagln2 (mouse) mapping to 1 H3.

## SOURCE

transgelin-2 (H-60) is a rabbit polyclonal antibody raised against amino acids 27-86 mapping within an internal region of transgelin-2 of human origin.

## PRODUCT

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

## APPLICATIONS

transgelin-2 (H-60) is recommended for detection of transgelin-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], 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).

transgelin-2 (H-60) is also recommended for detection of transgelin-2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for transgelin-2 siRNA (h): sc-106633, transgelin-2 siRNA (m): sc-77363, transgelin-2 shRNA Plasmid (h): sc-106633-SH, transgelin-2 shRNA Plasmid (m): sc-77363-SH, transgelin-2 shRNA (h) Lentiviral Particles: sc-106633-V and transgelin-2 shRNA (m) Lentiviral Particles: sc-77363-V.

Molecular Weight of transgelin-2: 22 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<sup>™</sup> compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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 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<sup>™</sup> 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.