

transgelin (C-11): sc-271719

BACKGROUND

Transgelin, also designated SM22a, 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

1. 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.
2. 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.

CHROMOSOMAL LOCATION

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

SOURCE

transgelin (C-11) is a mouse monoclonal antibody raised against amino acids 16-90 mapping near the N-terminus of transgelin of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

transgelin (C-11) is recommended for detection of transgelin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

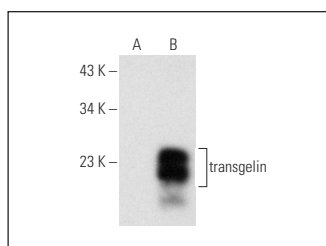
Molecular Weight of transgelin: 22 kDa.

Positive Controls: transgelin (m): 293T Lysate: sc-124254, Hs68 cell lysate: sc-2230 or U-2 OS cell lysate: sc-2295.

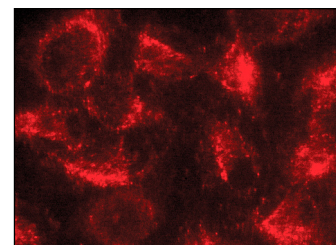
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



transgelin (C-11): sc-271719. Western blot analysis of transgelin expression in non-transfected: sc-117752 (A) and mouse transgelin transfected: sc-124254 (B) 293T whole cell lysates.



transgelin (C-11): sc-271719. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization.

SELECT PRODUCT CITATIONS

1. Rozenberg, J.M., et al. 2014. DNA methylation of a GC repressor element in the smooth muscle myosin heavy chain promoter facilitates binding of the Notch-associated transcription factor, RBPJ/CSL1. *Arterioscler. Thromb. Vasc. Biol.* 34: 2624-2631.
2. Jover, E., et al. 2018. Inhibition of enzymes involved in collagen cross-linking reduces vascular smooth muscle cell calcification. *FASEB J.* 32: 4459-4469.
3. Bai, X., et al. 2020. GRAF3 serves as a blood volume-sensitive rheostat to control smooth muscle contractility and blood pressure. *Small GTPases* 11: 194-203.

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 for detailed protocols and support products.