SANTA CRUZ BIOTECHNOLOGY, INC.

smoothelin (R4A): sc-23883

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The cytoskeletal protein smoothelin is highly conserved among vertebrates and is expressed exclusively by contractile smooth muscle cells where it localizes to the filament network. Smoothelin associates with Actin stress fibers but does not interact with desmin. At least two isoforms of smoothelin are produced by alternative splicing. The short isoform lacks amino acids 1-456 at the amino-terminus of the long isoform. The short isoform is expressed in visceral muscle tissue, including intestine and stomach, but not in brain, while the long isoform is expressed in all vascularized organs. In the vascular system, smoothelin expression is limited to large veins and arteries capable of pulsatile contraction. As a marker for the highly differentiated contractile smooth muscle cell, smoothelin expression is useful for studying vascular malformation and injury. The gene encoding human smoothelin maps to chromosome 22q12.2.

CHROMOSOMAL LOCATION

Genetic locus: SMTN (human) mapping to 22q12.2; Smtn (mouse) mapping to 11 A1.

SOURCE

smoothelin (R4A) is a mouse monoclonal antibody raised against cytoskeletal extract from gizzard of chicken origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

smoothelin (R4A) is available conjugated to agarose (sc-23883 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-23883 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-23883 PE), fluorescein (sc-23883 FITC), Alexa Fluor® 488 (sc-23883 AF488), Alexa Fluor® 546 (sc-23883 AF546), Alexa Fluor® 594 (sc-23883 AF594) or Alexa Fluor® 647 (sc-23883 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-23883 AF680) or Alexa Fluor® 790 (sc-23883 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

smoothelin (R4A) is recommended for detection of long and short isoforms of smoothelin of mouse, rat, human and chicken origin by Western Blotting (starting dilution 1:200, 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for smoothelin siRNA (h): sc-36512, smoothelin siRNA (m): sc-36513, smoothelin shRNA Plasmid (h): sc-36512-SH, smoothelin shRNA Plasmid (m): sc-36513-SH, smoothelin shRNA (h) Lentiviral Particles: sc-36512-V and smoothelin shRNA (m) Lentiviral Particles: sc-36513-V.

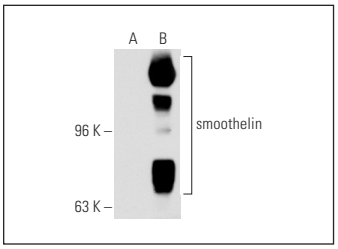
Molecular Weight of smoothelin short isoform: 59 kDa.

Molecular Weight of smoothelin long isoform: 110 kDa.

STORAGE

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

DATA



smoothelin (R4A): sc-23883. Western blot analysis of smoothelin expression in non-transfected: sc-117752 (**A**) and mouse smoothelin transfected: sc-126019 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Amiot, A., et al. 2009. The role of immunohistochemistry in idiopathic chronic intestinal pseudoobstruction (CIPO): a case-control study. Am. J. Surg. Pathol. 33: 749-758.
2. Roelofs, L.A., et al. 2014. Tissue engineering of diseased bladder using a collagen scaffold in a bladder exstrophy model. BJU Int. 114: 447-457.
3. Huang, A.H., et al. 2015. Design and use of a novel bioreactor for regeneration of biaxially stretched tissue-engineered vessels. Tissue Eng. Part C Methods 21: 841-851.
4. Huang, A.H., et al. 2016. Biaxial stretch improves elastic fiber maturation, collagen arrangement, and mechanical properties in engineered arteries. Tissue Eng. Part C Methods 22: 524-533.
5. Roelofs, L.A., et al. 2016. Bladder regeneration using a smart acellular collagen scaffold with growth factors VEGF, FGF2 and HB-EGF. Tissue Eng. Part A 22: 83-92.
6. Sloff, M., et al. 2017. Novel tubular constructs for urinary diversion: a biocompatibility study in pigs. J. Tissue Eng. Regen. Med. 11: 2241-2249.
7. Kishi, Y., et al. 2017. Phenotypic characterization of adenomyosis occurring at the inner and outer myometrium. PLoS ONE 12: e0189522.
8. Roelofs, L.A.J., et al. 2018. Bladder regeneration using multiple acellular scaffolds with growth factors in a bladder. Tissue Eng. Part A 24: 11-20.
9. Mylonaki, I., et al. 2018. Evaluating intimal hyperplasia under clinical conditions. Interact. Cardiovasc. Thorac. Surg. 27: 427-436.

RESEARCH USE

For research use only, not for use in diagnostic procedures.