



Datasheet for ABIN335397
anti-Smoothelin antibody



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9 Publications

Overview

| | |
|--------------|--|
| Quantity: | 0.1 mg |
| Target: | Smoothelin (SMTN) |
| Reactivity: | Human, Cat, Chicken, Dog, Monkey, Pig |
| Host: | Mouse |
| Clonality: | Monoclonal |
| Conjugate: | This Smoothelin antibody is un-conjugated |
| Application: | Western Blotting (WB), Immunohistochemistry (IHC), Immunohistochemistry (Frozen Sections) (IHC (fro)), Immunohistochemistry (Paraffin-embedded Sections) (IHC (p)) |

Product Details

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|---------------|--|
| Immunogen: | R4A is a mouse monoclonal IgG1 antibody derived by fusion of SP2/0-Ag14 mouse myeloma cells with spleen cells from a mouse immunized with a cytoskeletal extract of chicken gizzard. |
| Clone: | R4A |
| Isotype: | IgG1 |
| Specificity: | Human, canine, feline, chicken, swine, monkey. Not reactive with rat. |
| Purification: | Purified |

Target Details

| | |
|-------------------|--|
| Target: | Smoothelin (SMTN) |
| Alternative Name: | Smoothelin (SMTN Products) |

Target Details

Background: Smoothelin is a constituent of the smooth muscle cell (SMC) cytoskeleton. Antibodies directed to smoothelin are useful tools to monitor SMC differentiation. Smoothelin is exclusively expressed in fully differentiated (contractile) SMCs. RNA and protein analyses revealed a broad species distribution of this protein. Cells with SMC-like characteristics, such as myofibroblasts and myoepithelial cells, as well as skeletal and cardiac muscle do not contain smoothelin. Confocal scanning laser microscopy of tissue sections and cells in culture show a filamentous organization of smoothelin colocalizing with actin stress fibers. In immunoblots two molecular weight isoforms are detected i.e. a 59 kDa isoform specific for visceral SMC (smoothelin A), and an isoform with a molecular weight of approximately 100 kDa in vascular SMC (smoothelin B). Human smoothelin is encoded by a single copy gene which is located on chromosome 22.

Application Details

Application Notes: R4A reacts with the 59 kDa and 100 kDa protein, corresponding to smoothelin A and B, respectively, which are exclusively found in smooth muscle cells. R4A is suitable for immunoblotting and immunohistochemistry on frozen and paraffin-embedded tissues. For staining paraffin-embedded tissues pretreatment in 10 mM citrate buffer (pH 6.0) and heating for 3 times 5 minutes in a microwave is required. Optimal antibody dilution should be determined by titration, recommended range is 1:100 - 1:200 for immunohistochemistry with avidin-biotinylated horseradish peroxidase complex (ABC) as detection reagent, and 1:100 - 1:1000 for immunoblotting applications.

Restrictions: For Research Use only

Handling

Concentration: 1mg/ml

Buffer: in PBS containing 0.09% Sodium Azide

Preservative: Sodium azide

Precaution of Use: This product contains sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

Storage: 4 °C

Publications

Product cited in: Coco, Hirsch, Hornick: "Smoothelin is a specific marker for smooth muscle neoplasms of the gastrointestinal tract." in: **The American journal of surgical pathology**, Vol. 33, Issue 12, pp.

1795-801, (2009) ([PubMed](#)).

Council, Hameed: "Differential expression of immunohistochemical markers in bladder smooth muscle and myofibroblasts, and the potential utility of desmin, smoothelin, and vimentin in staging of bladder carcinoma." in: **Modern pathology : an official journal of the United States and Canadian Academy of Pathology, Inc**, Vol. 22, Issue 5, pp. 639-50, (2009) ([PubMed](#)).

Deruiter, Rensen, Coolen, Hierck, Bergwerff, Debie, Gittenberger-De Groot, Van Eys: "Smoothelin expression during chicken embryogenesis: detection of an embryonic isoform." in: **Developmental dynamics : an official publication of the American Association of Anatomists**, Vol. 221, Issue 4, pp. 460-3, (2001) ([PubMed](#)).

Johansson, Eriksson, Ramaekers, Thornell: "Smoothelin in adult and developing human arteries and myocardium." in: **Histochemistry and cell biology**, Vol. 112, Issue 4, pp. 291-9, (2000) ([PubMed](#)).

Johansson, Eriksson, Ramaekers, Thornell: "Smoothelin and intermediate filament proteins in human aortocoronary saphenous vein by-pass grafts." in: **The Histochemical journal**, Vol. 31, Issue 11, pp. 723-7, (2000) ([PubMed](#)).

There are more publications referencing this product on: [Product page](#)

Images

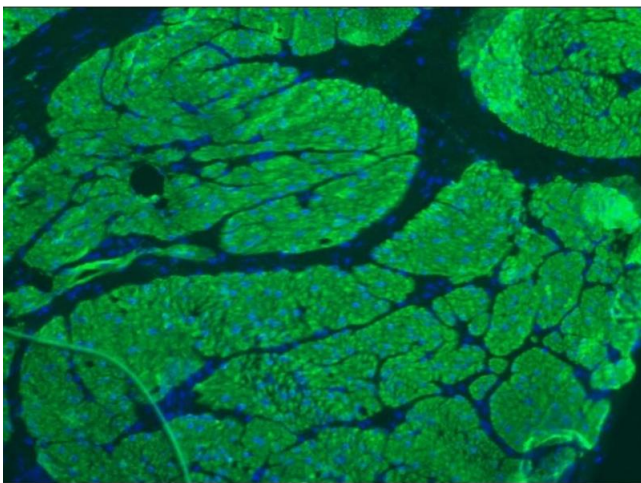


Image 1.

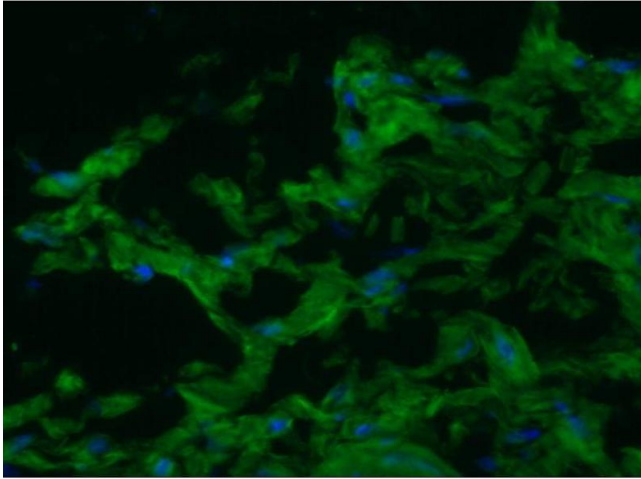
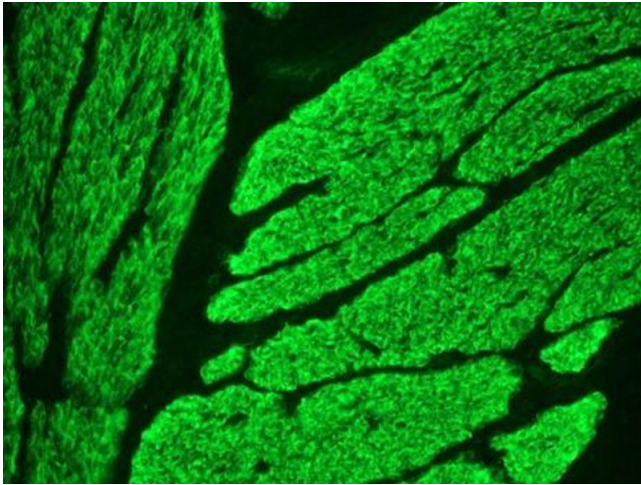


Image 2.



Immunohistochemistry (Frozen Sections)

Image 3. Immunohistochemistry on frozen section of chicken gizzard striated muscle