

Alexa Fluor® 555 anti-α Smooth Muscle Actin Antibody

Catalog# / Size	614859 / 25 µg
Clone	1A4
Regulatory Status	RUO
Other Names	Actin, aortic smooth muscle (αSMA), alpha 2 actin (ACTA2), alpha-cardiac actin, growth-inhibiting gene 46, cell growth-inhibiting gene 46 protein
Isotype	Mouse IgG2a, κ
Description	Cytoplasmic actins, which belong to the microfilament system of cytoskeleton proteins, are some of the most conserved eukaryotic proteins expressed in mammals. α-smooth muscle actin is widely expressed in contractile cells, most notably the mural cells that line arteries and arterioles. Overexpression of α-smooth muscle actin is a hallmark of fibrosis, a thickening or scarring of damaged tissue.

Product Details

Verified Reactivity	Human, Mouse
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	N-terminal synthetic peptide of alpha-smooth muscle actin coupled to keyhole limpet haemocyanin (KLH).
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide
Preparation	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 555 under optimal conditions.
Concentration	0.5 mg/mL
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.
Application	IHC-P - Quality tested ICC - Verified
Recommended Usage	Each lot of this antibody is quality control tested by formalin-fixed paraffin-embedded immunohistochemical staining. For immunohistochemistry, a concentration range of 1.0 - 10.0 µg/mL is suggested. For immunocytochemistry, a concentration range of 1.0 - 10.0 µg/mL is recommended. It is recommended that the reagent be titrated for optimal performance for each application. * Alexa Fluor® 555 has an excitation maximum of 555 nm, and a maximum emission of 565 nm. Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation. View full statement regarding label licenses
Excitation Laser	Blue Laser (488 nm) Green Laser (532 nm)/Yellow-Green Laser (561 nm)
Additional Product Notes	For use in immunohistochemistry on formalin-fixed paraffin-embedded tissue (IHC-P), it is recommended to perform antigen retrieval using either Citrate Buffer, 10X (Cat. No. 420902) or Tris-EDTA pH 9.0 Antigen Retrieval Buffer (10X) (Cat. No. 422704). For use in immunocytochemistry (ICC), it is recommended to fix/permeabilize with any of the following: -Fixation buffer (Cat. No. 420801) with 0.5 % Triton X-100 -100% ice-cold methanol only -Fixation buffer (Cat. No. 420801) with 100% ice-cold methanol

Antigen Details

Structure	α smooth muscle actin is a 377 amino acid protein with a predicted molecular weight of 42 kD.
Distribution	Cytoplasmic, cytoskeleton
Function	Cell motility
Interaction	α smooth muscle actins bind to myosins to produce motive force
Cell Type	Mesenchymal Stem Cells, Monocytes
Biology Area	Cell Biology, Cell Motility/Cytoskeleton/Structure, Cell Structure, Neuroscience, Neuroscience Cell Markers
Molecular Family	Microfilaments
Antigen References	1. Brennan PA, <i>et al.</i> 2000. <i>J Oral Pathol Med.</i> 29:279-83. 2. Rizeq MN, <i>et al.</i> 1994. <i>Hum Pathol.</i> 25:671-7. 3. Schmitt-Graff A, <i>et al.</i> 1991. <i>Am J Pathol.</i> 138::1233-42 4. Roholl PJM, <i>et al.</i> 1990. <i>Hum Pathol.</i> 21:1269-74. 5. Alberts B, <i>et al.</i> 1989. <i>Eds Molecular biology of the cell.</i> 2:613. 6. Skalli O, <i>et al.</i> 1986. <i>J Cell Biol.</i> 103:2787-96.

Gene ID [59](#)

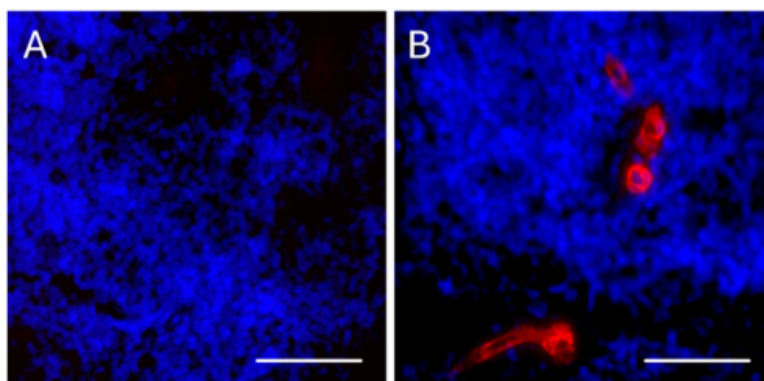
Related Protocols

- [Immunocytochemistry Staining Protocol](#)
- [Immunohistochemistry Protocol for Paraffin-Embedded Sections](#)

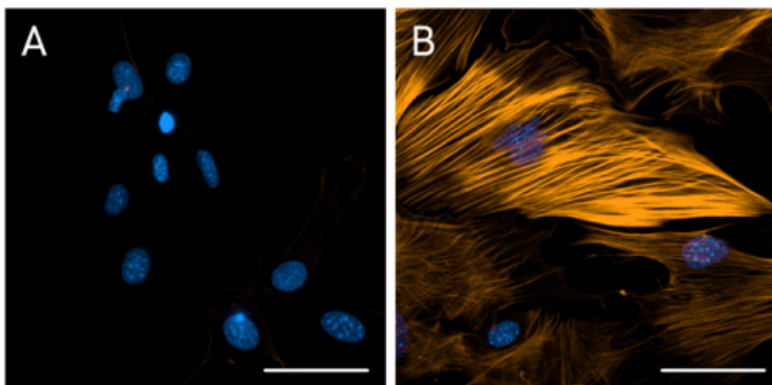
Other Formats

Purified anti- α Smooth Muscle Actin, Alexa Fluor® 488 anti- α Smooth Muscle Actin, Alexa Fluor® 647 anti- α Smooth Muscle Actin, Alexa Fluor® 555 anti- α Smooth Muscle Actin, Alexa Fluor® 594 anti- α Smooth Muscle Actin

Product Data



IHC staining with Alexa Fluor® 555 anti- α -Smooth Muscle Actin (clone 1A4) on formalin-fixed paraffin-embedded human tonsil. Following antigen retrieval using 1X Tris-EDTA pH 9.0 Antigen Retrieval Buffer (Cat. No. 422704), the tissue was incubated with Alexa Fluor® 555 anti-mouse IgG2a Isotype Control (panel A) or Alexa Fluor® 555 anti- α -Smooth Muscle Actin antibody (clone 1A4) (panel B). Images were captured with a 40X objective. Scale: 50 μ m



NIH/3T3 cells (low-expressing cell line, panel A) and aortic vascular smooth muscle cells (high-expressing cell line, panel B) were fixed with 4% PFA Fixation Buffer (Cat. No. 420801) for 10 minutes, permeabilized with 100% ice-cold methanol for 10 minutes, and blocked with 5% FBS for 1 hour at room temperature. Cells were then stained with Alexa Fluor® 555 anti- α -Smooth Muscle Actin (clone 1A4), and nuclei were counterstained with DAPI (Cat. No. 422801). The images were captured on a Revvity Operetta CLS™ High Content Analysis System with a 63X objective and merged. Scale bar: 50 μ m

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