

ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108]

Package: 100 µl
Store at: -20°C

Summary

Product Description	Recombinant Rabbit Monoclonal antibody [SQab18108] recognizes alpha smooth muscle Actin
Tested Reactivity	Hu, Ms, Rat, AGMK, Bov, Ctl, Dog, Pig, Zfsh
Tested Application	FACS, ICC/IF, IHC-Fr, IHC-P, WB
Host	Rabbit
Clonality	Monoclonal
Clone	SQab18108
Isotype	IgG
Target Name	alpha smooth muscle Actin
Species	Human
Immunogen	Synthetic peptide corresponding to residues on the N-terminus of Human alpha smooth muscle Actin.
Conjugation	Un-conjugated
Alternate Names	Cell growth-inhibiting gene 46 protein; MYMY5; ACTSA; Alpha-actin-2; Actin, aortic smooth muscle; AAT6

Application Instructions

Application table	Application	Dilution
	FACS	1:20 - 1:100
	ICC/IF	1:80 - 1:200
	IHC-Fr	Assay-dependent
	IHC-P	1:2000 - 1:4000
	WB	1:1000 - 1:2000
Application Note	IHC-P: Antigen Retrieval: Heat mediated was performed using Tris/EDTA buffer (pH 9.0). * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.	

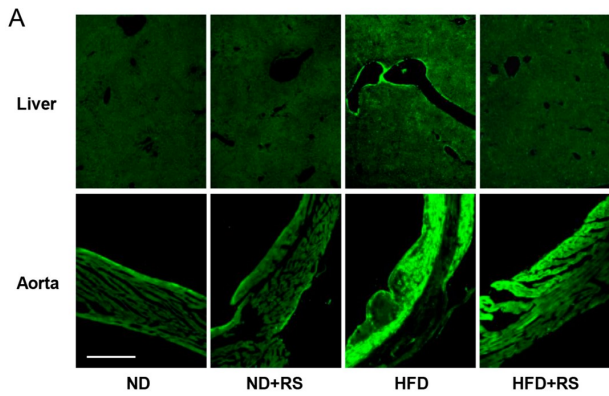
Properties

Form	Liquid
Purification	Purification with Protein A.
Buffer	PBS, 0.01% Sodium azide, 40% Glycerol and 0.05% BSA.
Preservative	0.01% Sodium azide
Stabilizer	40% Glycerol and 0.05% BSA

Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

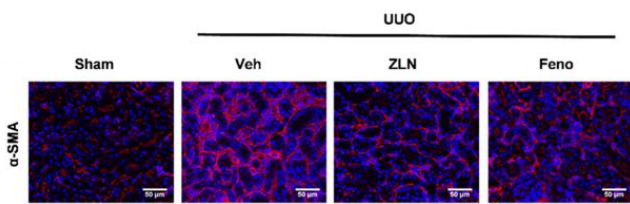
Gene Symbol	ACTA2
Gene Full Name	actin, alpha 2, smooth muscle, aorta
Background	The protein encoded by this gene belongs to the actin family of proteins, which are highly conserved proteins that play a role in cell motility, structure and integrity. Alpha, beta and gamma actin isoforms have been identified, with alpha actins being a major constituent of the contractile apparatus, while beta and gamma actins are involved in the regulation of cell motility. This actin is an alpha actin that is found in skeletal muscle. Defects in this gene cause aortic aneurysm familial thoracic type 6. Multiple alternatively spliced variants, encoding the same protein, have been identified. [provided by RefSeq, Nov 2008]
Function	Actins are highly conserved proteins that are involved in various types of cell motility and are ubiquitously expressed in all eukaryotic cells. [UniProt]
Highlight	<p>Related Antibody Duos and Panels:</p> <p>ARG30322 Myofibroblast Differentiation Antibody Duo ARG30327 Microvascular Density Antibody Panel ARG30346 Myofibroblast / Fibrosis Antibody Panel ARG30347 CAF Marker Antibody Panel</p> <p>Related products: alpha smooth muscle Actin antibodies; alpha smooth muscle Actin Duos / Panels; Anti-Rabbit IgG secondary antibodies;</p> <p>Related news: New antibody panels for Myofibroblasts and CAFs New antibody panels and duos for Tumor immune microenvironment Anti-SerpinB9 therapy, a new strategy for cancer therapy</p>
Research Area	Cell Biology and Cellular Response antibody; Controls and Markers antibody; Signaling Transduction antibody; Cancer-associated fibroblast antibody; Smooth Muscle Marker antibody; CAF Marker antibody; Mural cell Marker antibody; Myofibroblast Marker antibody; Angiogenesis Study antibody; Microvascular Density Study antibody
Calculated Mw	42 kDa
PTM	<p>Oxidation of Met-46 and Met-49 by MICALs (MICAL1, MICAL2 or MICAL3) to form methionine sulfoxide promotes actin filament depolymerization. MICAL1 and MICAL2 produce the (R)-S-oxide form. The (R)-S-oxide form is reverted by MSRB1 and MSRB2, which promote actin repolymerization (By similarity).</p> <p>Monomethylation at Lys-86 (K84me1) regulates actin-myosin interaction and actomyosin-dependent processes. Demethylation by ALKBH4 is required for maintaining actomyosin dynamics supporting normal cleavage furrow ingression during cytokinesis and cell migration.</p> <p>(Microbial infection) Monomeric actin is cross-linked by V.cholerae toxins RtxA and VgrG1 in case of infection: bacterial toxins mediate the cross-link between Lys-52 of one monomer and Glu-272 of another actin monomer, resulting in formation of highly toxic actin oligomers that cause cell rounding (PubMed:19015515). The toxin can be highly efficient at very low concentrations by acting on formin homology family proteins: toxic actin oligomers bind with high affinity to formins and adversely affect both nucleation and elongation abilities of formins, causing their potent inhibition in both profilin-dependent and independent manners (PubMed:26228148). [UniProt]</p>



ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108]
IHC-Fr image

Immunohistochemistry: Frozen mouse aorta stained with ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108].

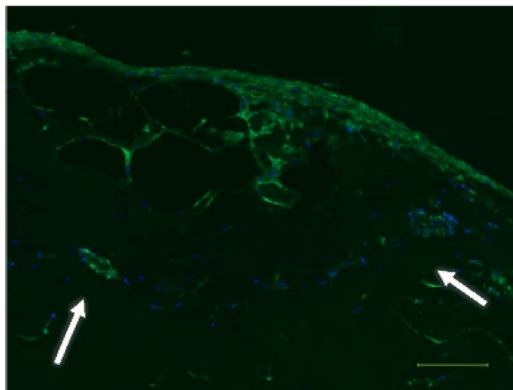
From Masahiro Terasawa et al. *Cells* (2023), [doi: 10.3390/cells12222666](https://doi.org/10.3390/cells12222666), Fig. 2A.



ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108]
ICC-IF image

Immunofluorescence: Mouse kidney stained with ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108].

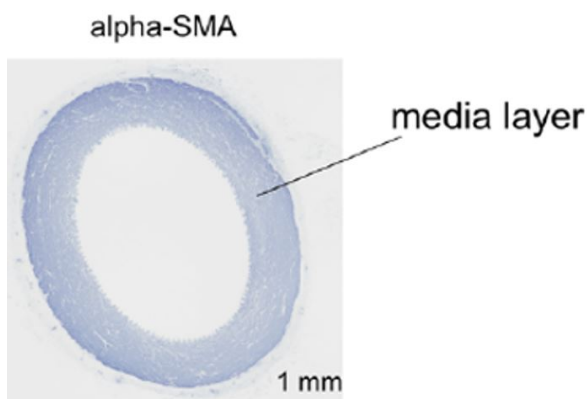
From Pengfei Zhu et al. *Pharmaceuticals (Basel)*- (2022), [doi: 10.3390/ph15040434](https://doi.org/10.3390/ph15040434), Fig. 1. A.



ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108]
IHC-P image

Immunohistochemistry: Cattle periosteum stained with ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108].

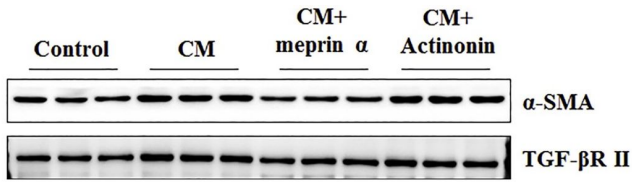
From Mari Akiyama et al. *Biomimetics (Basel)*. (2023), [doi: 10.3390/biomimetics8010007](https://doi.org/10.3390/biomimetics8010007), Fig. 4. C.



ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108]
IHC-P image

Immunohistochemistry: Bovine blood vessels stained with ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108].

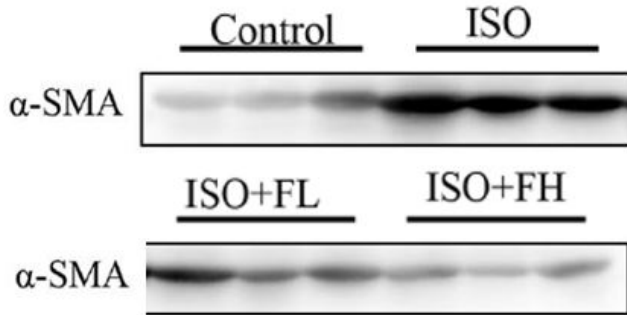
From Mari Akiyama et al. *Cell Biochem Biophys*. (2024), [doi: 10.1007/s12013-024-01647-5](https://doi.org/10.1007/s12013-024-01647-5), Fig. 5.



ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108]
WB image

Western blot: Rat lung fibroblasts stained with [ARG66381](#) anti-alpha smooth muscle Actin antibody [SQab18108], and [ARG59501](#) anti-TGFBR2 / TGF beta Receptor II antibody.

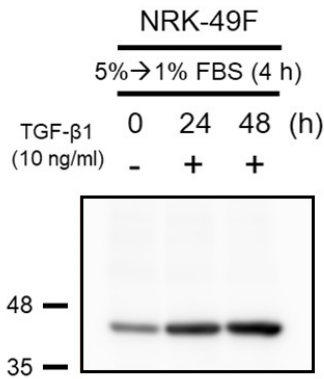
From Chen Y et al. Preprint- (2020), [doi: 10.1016/j.omtn.2019.11.018](#), Fig. 2. A.



ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108]
WB image

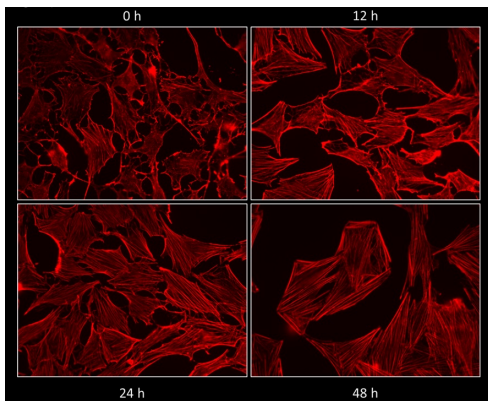
Western blot: Mouse heart stained with ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108].

From Lei Qian et al. Biomed Pharmacother. (2024), [doi: 10.1016/j.biopha.2023.116000](#), Fig. 2. C.



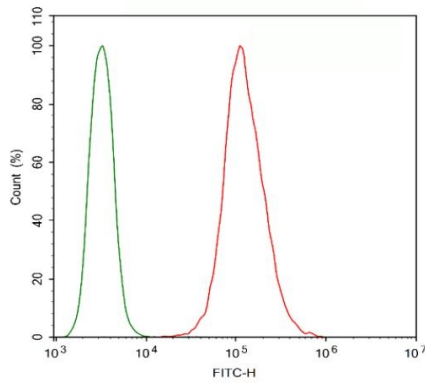
ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108]
WB image

Western blot: 30 μ g of NRK-49F cells treated with TGF beta 1 (10 ng/ml) for 0~48 hours. Cell lysates were stained with ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108] at 1:2000 dilution, overnight at 4°C.



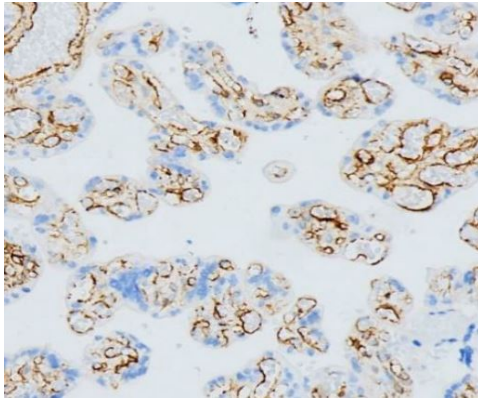
ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108]
ICC/IF image

Immunofluorescence: NRK-49F cells treated with TGF beta 1 (10 ng/ml) for 0~48 hours. Cells were fixed with 4% PFA for 15 min at room temperature and permeabilized by 0.5% Triton X-100. Cells were stained with ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108] at 1:200 dilution, overnight at 4°C.



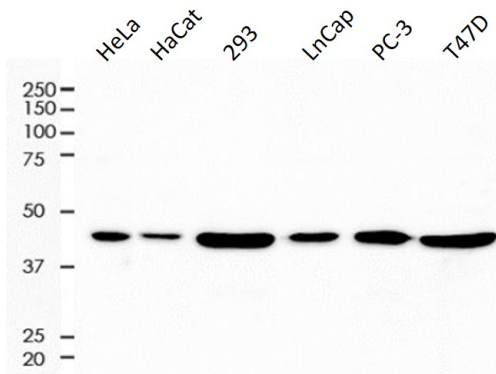
**ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108]
FACS image**

Flow Cytometry: HeLa cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% TritonX-100 for 15 min. The cells were then stained with ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108] (red) at 1:100 dilution in 1x PBS/1% BSA for 30 min at 4°C, followed by Alexa Fluor® 488 labelled secondary antibody. Unlabelled sample (green) was used as a control.



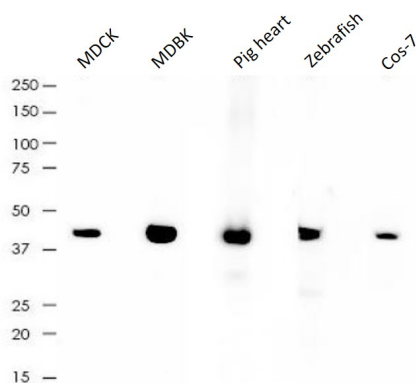
**ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108]
IHC-P image**

Immunohistochemistry: Formalin-fixed and paraffin-embedded placenta stained with ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108] at 1:2000 dilution. Antigen Retrieval: Heat mediated was performed using Tris/EDTA buffer (pH 9.0).



**ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108]
WB image**

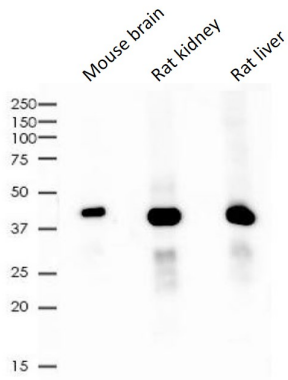
Western blot: 10 µg of HeLa, HaCat, 293, LnCap, PC-3 and T47D cell lysates stained with ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108] at 1:2000 dilution.



**ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108]
WB image**

Western blot: 10 µg of MDCK, MDBK, Pig heart, Zebrafish and Cos-7 lysates stained with ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108] at 1:2000 dilution.

ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108]
WB image



Western blot: 10 μ g of Mouse brain, Rat kidney and Rat liver lysates stained with ARG66381 anti-alpha smooth muscle Actin antibody [SQab18108] at 1:2000 dilution.