

Datasheet for ABIN335372

**anti-Smooth Muscle Actin antibody**

3 Images

14 Publications

[Go to Product page](#)

## Overview

Quantity:	0.05 mg
Target:	Smooth Muscle Actin (ACTA2)
Reactivity:	Human, Rat, Mouse, Chicken, Rabbit, Goat
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This Smooth Muscle Actin antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), ELISA, Immunohistochemistry (Paraffin-embedded Sections) (IHC (p)), Immunocytochemistry (ICC), Immunohistochemistry (Frozen Sections) (IHC (fro)), Immunoelectron Microscopy (IEM)

## Product Details

Immunogen:	alpha-SM1 (clone 1A4) is a mouse monoclonal IgG2a antibody derived by fusion of Sp 2/0 mouse myeloma cells with spleen cells from a BALB/c mouse immunized with a peptide comprising the first 10 amino acids of alpha-smooth muscle actin with an acetylated N-terminus coupled to keyhole limpet hemocyanin via the C-terminal cysteine (Ac-EEEDSTALVC).
Clone:	Alpha-SM1-1A4
Isotype:	IgG2a
Specificity:	The epitope recognized by alpha-SM1 is highly conserved. The antibody therefore cross-reacts with many species including protochordates, lower craniates and mammals (amongst others human, rat, chicken, goat, rabbit, mouse).
Purification:	Purified

## Target Details

Target:	Smooth Muscle Actin (ACTA2)
Alternative Name:	alpha-smooth muscle actin ( <a href="#">ACTA2 Products</a> )
Background:	Among the six actin isoforms described in mammals, two are found in virtually all cells (beta~ and gamma~cytoplasmic), two are detected in smooth muscle cells (alpha~ and gamma-smooth muscle) and two are present in striated muscles, one predominantly in skeletal (alpha-skeletal) and one in cardiac (alpha-cardiac) muscle cells. These actin isoforms differ slightly in their N-terminus and the sequences of each of them are perfectly conserved in higher vertebrates. Alpha-smooth muscle actin is abundant in vascular and visceral smooth muscle cells. In addition, it has also been shown to appear in stress fibers of fibroblastic cells during pathological situations involving contractile phenomena such as wound healing and fibrocontractive diseases.
Pathways:	<a href="#">Myometrial Relaxation and Contraction</a> , <a href="#">Skeletal Muscle Fiber Development</a>

## Application Details

Application Notes:	alpha-SM1 reacts exclusively with alpha-smooth muscle actin which is typical for vascular and visceral smooth muscle cells, but which is also present in myofibroblasts. The epitope that is recognized by alpha-SM1 is Ac-EEED. alpha-SM1 is useful for immunocytochemistry, immunohistochemistry on frozen and paraffin-embedded tissues, immunoblotting, immunoelectron microscopy and ELISA. Optimal antibody dilution should be determined by titration, recommended range is 1:1000 - 1:10.000 for immunohistochemistry with avidin-biotinylated horseradish peroxidase complex (ABC) as detection reagent, and 1:10.000 - 1:50.000 for immunoblotting applications.
Restrictions:	For Research Use only

## Handling

Storage:	4 °C
----------	------

## Publications

Product cited in:	De Visscher, Plusquin, Mesure, Flameng: "Selection of an immunohistochemical panel for cardiovascular research in sheep." in: <b>Applied immunohistochemistry &amp; molecular morphology : AIMM / official publication of the Society for Applied Immunohistochemistry</b> , Vol. 18, Issue 4, pp. 382-91, (2010) ( <a href="#">PubMed</a> ).
-------------------	---

## Publications

---

Clément, Stouffs, Bettiol, Kampf, Krause, Chaponnier, Jaconi: "Expression and function of alpha-smooth muscle actin during embryonic-stem-cell-derived cardiomyocyte differentiation." in: **Journal of cell science**, Vol. 120, Issue Pt 2, pp. 229-38, (2007) ([PubMed](#)).

Clment, Hinz, Dugina, Gabbiani, Chaponnier: "The N-terminal Ac-EEED sequence plays a role in alpha-smooth-muscle actin incorporation into stress fibers." in: **Journal of cell science**, Vol. 118, Issue Pt 7, pp. 1395-404, (2005) ([PubMed](#)).

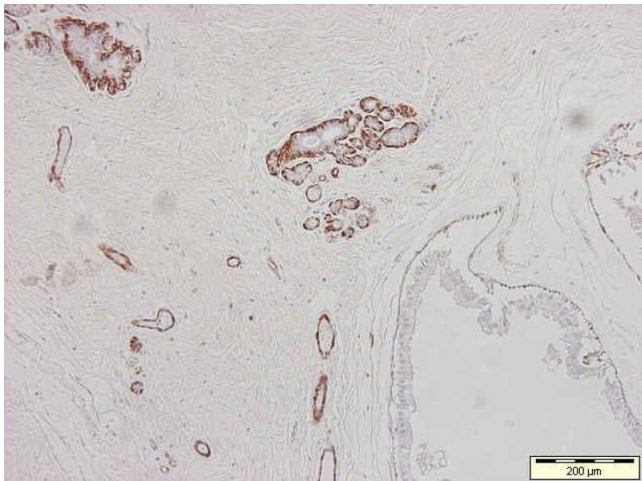
Chaponnier, Gabbiani: "Pathological situations characterized by altered actin isoform expression." in: **The Journal of pathology**, Vol. 204, Issue 4, pp. 386-95, (2004) ([PubMed](#)).

Hinz, Dugina, Ballestrem, Wehrle-Haller, Chaponnier: "Alpha-smooth muscle actin is crucial for focal adhesion maturation in myofibroblasts." in: **Molecular biology of the cell**, Vol. 14, Issue 6, pp. 2508-19, (2003) ([PubMed](#)).

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

## Images

---



**Image 1.**

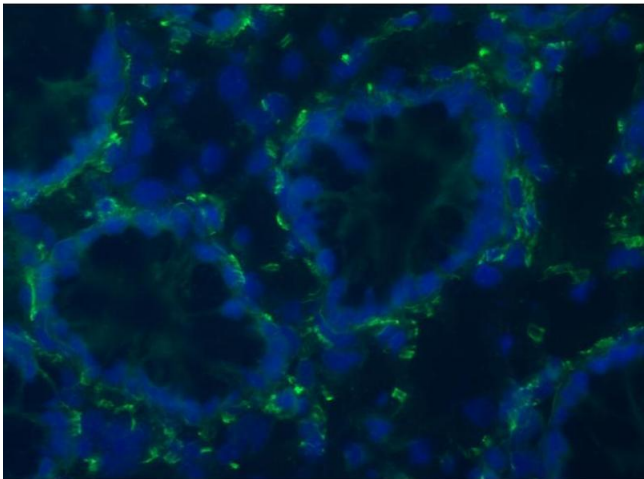


Image 2.

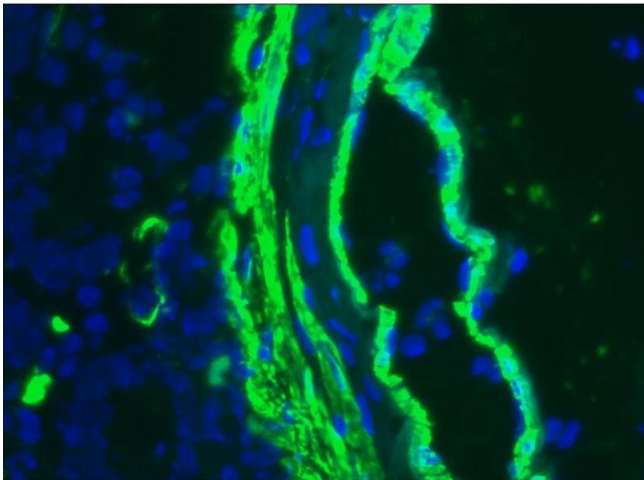


Image 3.