

Alpha smooth muscle Actin Antibody
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP50856**Specification****Alpha smooth muscle Actin Antibody - Product Information**

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	P62736
Reactivity	Human, Mouse, Rat, Rabbit
Host	Rabbit
Clonality	Polyclonal
Calculated MW	42 KDa
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Actin alpha
Epitope Specificity	165-260/377
Isotype	IgG
Purity	
affinity purified by Protein A	
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cytoplasm, cytoskeleton.
SIMILARITY	Belongs to the actin family.
SUBUNIT	Polymerization of globular actin (G-actin) leads to a structural filament (F-actin) in the form of a two-stranded helix. Each actin can bind to 4 others.
Post-translational modifications	Oxidation of Met-46 by MICALs (MICAL1, MICAL2 or MICAL3) to form methionine sulfoxide promotes actin filament depolymerization. Methionine sulfoxide is produced stereospecifically, but it is not known whether the (S)-S-oxide or the (R)-S-oxide is produced (By similarity).
DISEASE	Defects in ACTA2 are the cause of aortic aneurysm familial thoracic type 6 (AAT6) [MIM:611788]. AATs are characterized by permanent dilation of the thoracic aorta usually due to degenerative changes in the aortic wall. They are primarily associated with a characteristic histologic appearance known as 'medial necrosis' or 'Erdheim cystic medial necrosis' in which there is degeneration and fragmentation of elastic fibers, loss of smooth muscle cells, and an accumulation of basophilic ground substance.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

Background Descriptions

All eukaryotic cells express Actin, which often constitutes as much as 50% of total cellular protein. Actin filaments can form both stable and labile structures and are crucial components of microvilli and the contractile apparatus of muscle cells. While lower eukaryotes, such as yeast, have only one Actin gene, higher eukaryotes have several isoforms encoded by a family of genes. At least six types of Actin are present in mammalian tissues and fall into three classes. alpha-Actin expression is limited to various types of muscle, whereas beta- and gamma-Actin are the principle constituents of filaments in other tissues. Members of the small GTPase family regulate the organization of the Actin cytoskeleton. Rho controls the assembly of Actin stress fibers and focal adhesion. Rac regulates Actin filament accumulation at the plasma membrane. Cdc42 stimulates formation of filopodia.

Antigen Region

165-260/377

Alpha smooth muscle Actin Antibody - Additional Information

Gene ID 59

Other Names

Actin, aortic smooth muscle, Alpha-actin-2, Cell growth-inhibiting gene 46 protein, ACTA2, ACTSA, ACTVS

Dilution

WB~1:100~1:500
IHC-P~N/A
IHC-F~N/A
IF~1:50~200
E~N/A

Storage

Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Alpha smooth muscle Actin Antibody - Protein Information

Name ACTA2

Synonyms ACTSA, ACTVS

Function

Actins are highly conserved proteins that are involved in various types of cell motility and are ubiquitously expressed in all eukaryotic cells.

Cellular Location

Cytoplasm, cytoskeleton.

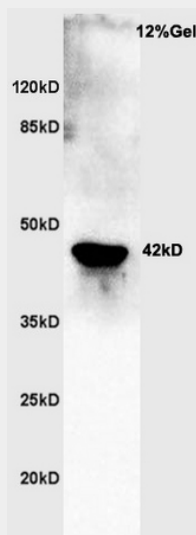
Alpha smooth muscle Actin Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

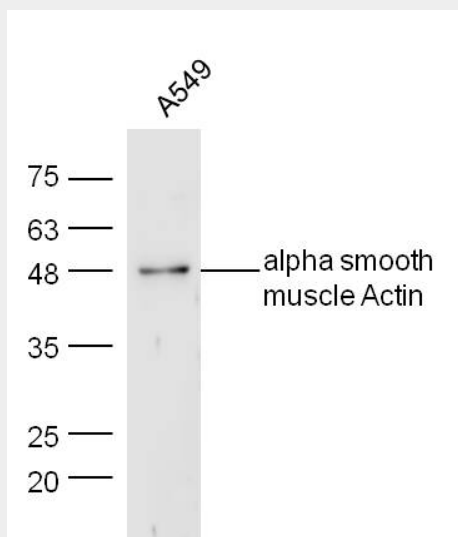
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)

- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Alpha smooth muscle Actin Antibody - Images



Human A549 lysates probed with Rabbit Anti-Actin Polyclonal Antibody, Unconjugated (AP50856) at 1:300 overnight at 4°C. Followed by a conjugated secondary antibody at 1:5000 for 90 min at 37°C.



Human A549 lysates probed with Rabbit Anti-Actin Polyclonal Antibody, Unconjugated AP50856 at 1:300 overnight at 4°C. Followed by a conjugated secondary antibody at 1:5000 for 90 min at 37°C.

Alpha smooth muscle Actin Antibody - Background

Actins are highly conserved proteins that are involved in various types of cell motility and are ubiquitously expressed in all eukaryotic cells.

Alpha smooth muscle Actin Antibody - References

Kamada S.,et al.Nucleic Acids Res. 17:1767-1767(1989).
Reddy S.,et al.J. Biol. Chem. 265:1683-1687(1990).
Kim J.W.,et al.Submitted (JUL-2004) to the EMBL/GenBank/DDBJ databases.
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Ota T.,et al.Nat. Genet. 36:40-45(2004).