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Rabbit Anti-alpha smooth muscle Actin antibody

SL10196R

Product Name:	alpha smooth muscle Actin
Chinese Name:	肌动蛋白α/α-SMA/α Actin抗体
Alias:	alpha sarcomeric Actin; alpha smooth muscle Actin; Actin alpha; ASMA; ASM-A; alpha-SMA; alpha SMA; AAT6; ACTA2; Actin alpha 2 smooth muscle aorta; Actin aortic smooth muscle; ACTSA; ACTVS; Alpha 2 actin; Alpha cardiac actin; Alpha-actin 2; Cell growth inhibiting gene 46 protein; Growth inhibiting gene 46; ACTA_HUMAN; Actin alpha 2 smooth muscle aorta; Actin aortic smooth muscle; Actin, aortic smooth muscle; Alpha 2 actin; Alpha actin 2; Alpha cardiac actin; Alpha-actin 2; Alpha-actin-2; Cell growth inhibiting gene 46 protein; Cell growth-inhibiting gene 46 protein; Growth inhibiting gene 46; MYMY5
文献引用 PubMed :	**Specific References(6)**|SL10196R has been referenced in 6 publications. **[IF=2.16]**Xu, Liang, et al. "Total polysaccharide of Yupingfeng protects against bleomycin-induced pulmonary fibrosis via inhibiting transforming growth factor-β1-mediated type I collagen abnormal deposition in rats." Journal of Pharmacy and Pharmacology (2014).**IHC-P;Rat**. PubMed:25209833 **[IF=2.88]**Li, Liucheng, et al. "Total extract of Yupingfeng attenuates bleomycin-induced pulmonary fibrosis in rats." Phytomedicine 22.1 (2015): 111-119.**WB;Rat**. PubMed:25636879 **[IF=1.86]**Qiao, Xi, et al. "Intermedin is upregulated and attenuates renal fibrosis by inhibition of oxidative stress in rats with unilateral ureteral obstruction."Nephrology (2015).**IHC-P;Rat**. PubMed:26014968 **[IF=1.72]**Yan, Xuerui, et al. "Cyanidin-3-O-glucoside Induces Apoptosis and Inhibits

	Migration of Tumor Necrosis Factor-α-Treated Rat Aortic Smooth Muscle Cells." Cardiovascular Toxicology (2015): 1-9.**Rat**. PubMed:26138096 **[IF=2.91]**Pang, X-X., et al. "Urotensin II Induces ER Stress and EMT and Increase Extracellular Matrix Production in Renal Tubular Epithelial Cell in Early Diabetic Mice." Kidney and Blood Pressure Research 41.4 (2016): 434-449.**WB, IHC-P;Mouse**. PubMed:27467277 **[IF=2.55]**Shen, Haitao, et al. "Chloroquine attenuates paraquat-induced lung injury in mice by altering inflammation, oxidative stress and fibrosis." International Immunopharmacology 46 (2017): 16-22.**IHC-P;Mouse**. PubMed:28249220
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,Rabbit,
Applications:	WB=1:5000-20000ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800Flow-Cyt=1μg/TestICC=1:100-500IF=1:100-500（Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	42kDa
Cellular localization:	cytoplasmic
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated synthetic peptide derived from human alpha-SMA:165-260/377
Lsotype:	IgG
Purification:	affinity purified by Protein A
Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. 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.
PubMed:	PubMed
Product Detail:	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.

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

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.

Subcellular Location:
Cytoplasm, cytoskeleton.

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.

Similarity:
Belongs to the actin family.

SWISS:
P68032

Gene ID:
59

Database links:
Entrez Gene: 101021287Baboon

Entrez Gene: 515610Cow

Entrez Gene: 59Human

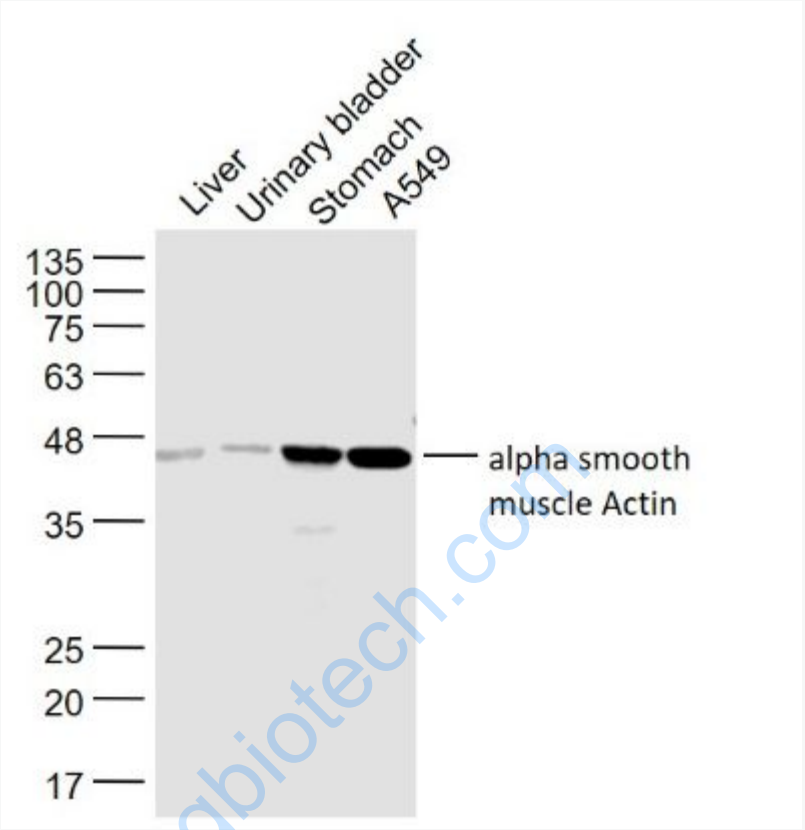
Entrez Gene: 11475Mouse

Entrez Gene: 733615Pig

Entrez Gene: 100009271Rabbit

	Entrez Gene: 81633Rat Omim: 102620Human SwissProt: P62739Cow SwissProt: P62736Human SwissProt: P62737Mouse SwissProt: P62740Rabbit SwissProt: P62738Rat Unigene: 500483Human Unigene: 213025Mouse Unigene: 195319Rat Unigene: 3114Rat **Important Note:** This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications. Actin α/α-Actin 是一种具有收缩能力的微丝蛋白，a-SMA广泛分布于几乎所有的肌型细胞中。Actin-α蛋白主要用于检测骨骼肌、平滑肌、血管平滑肌、心肌和肌原性Tumour包括：平滑肌瘤、平滑肌肉瘤、横纹肌肉瘤以及肌上细胞和肌上皮瘤。Actin（肌动蛋白）是在所有真核细胞中都表达的高度保守的蛋白质。它们沿微管组成了Cytoskeleton的主要成分。肌动蛋白至少表达为6种异构形式。它在心脏、骨骼横纹肌组织和某些平滑肌组织中表达，调节其收缩功能。有报导说肌动蛋白在乳房瘤中是高度磷酸化的。肌动蛋白的功能失调也会导致某种类型的心脏病。平滑肌α肌动蛋白使人更感兴趣，因为编码它的基因是相对局限于在血管平滑肌细胞中表达的少数几个基因之一。肌动蛋白是标记平滑肌和肌epithelial cellsTumour的有效工具。

Picture:



Sample:

Liver (Rat) Lysate at 40 ug

Urinary bladder (Rat) Lysate at 40 ug

Stomach (Mouse) Lysate at 40 ug

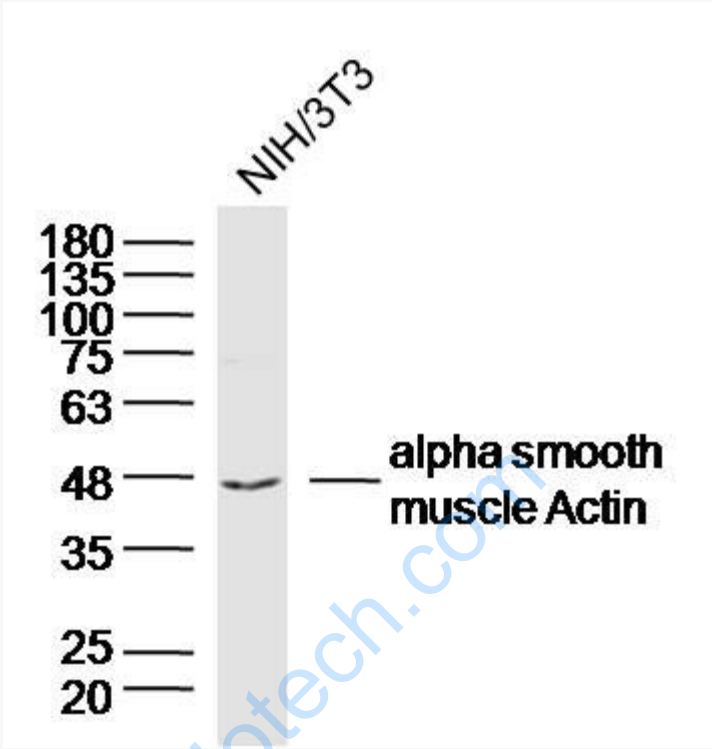
A549 (Cell) Lysate at 30 ug

Primary: Anti-alpha smooth muscle Actin (SL10196R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 42 kD

Observed band size: 46 kD



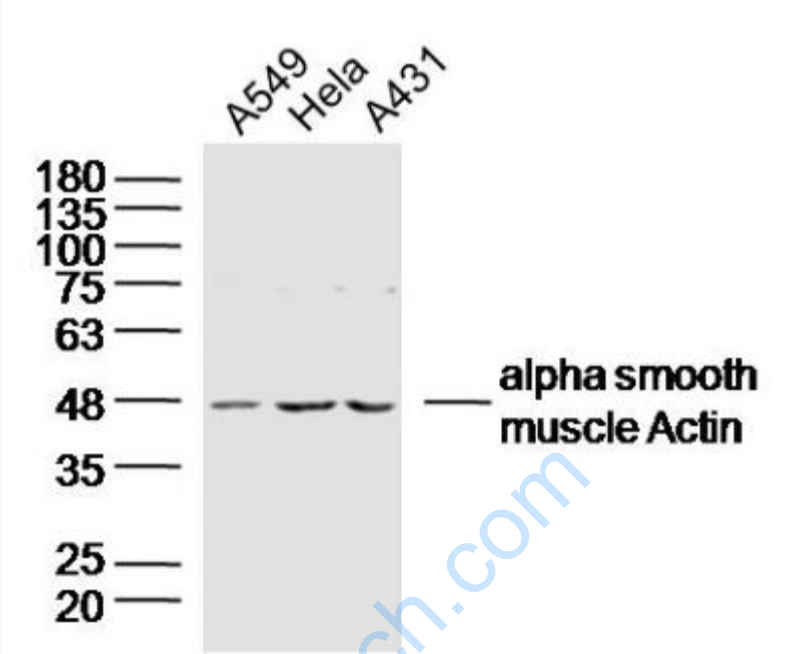
Sample:NIH/3T3(human) Cell Lysate at 40 ug

Primary: Anti-alpha smooth muscle Actin (SL10196R) at 1/300 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 42 kD

Observed band size: 42 kD



Sample:

A549 Cell Lysate at 40 ug

Hela Cell Lysate at 40 ug

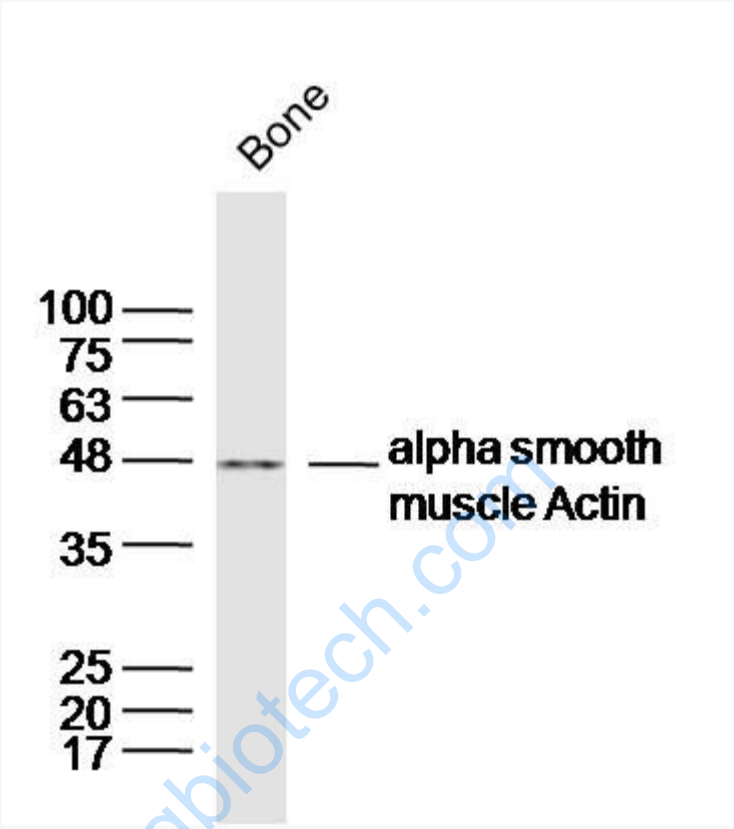
A431 Cell Lysate at 40 ug

Primary: Anti-alpha smooth muscle Actin (SL10196R) at 1/300 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 42 kD

Observed band size: 42 kD



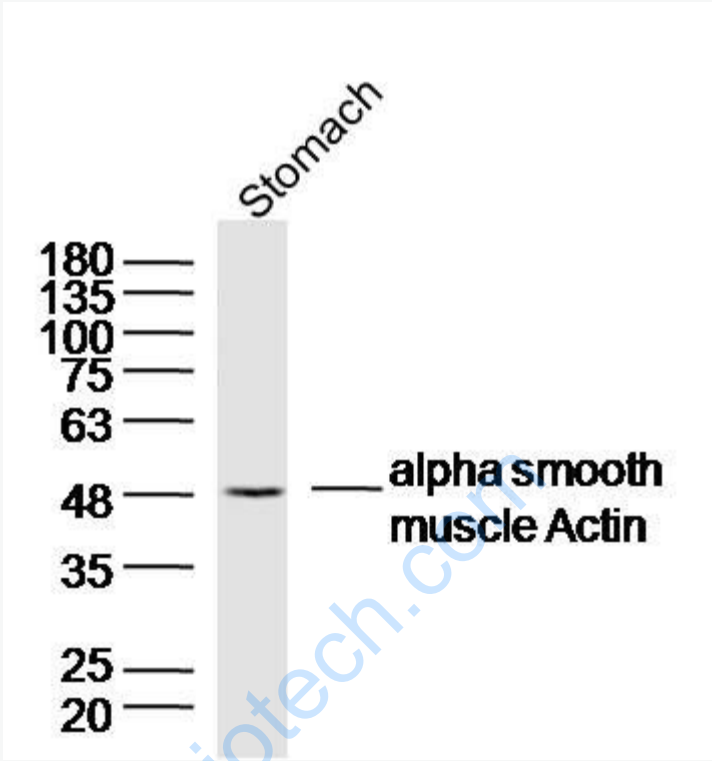
Sample: Bone (mouse) Lysate at 40 ug

Primary: Anti- alpha smooth muscle (SL10196R)at 1/300 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 42kD

Observed band size: 47 kD



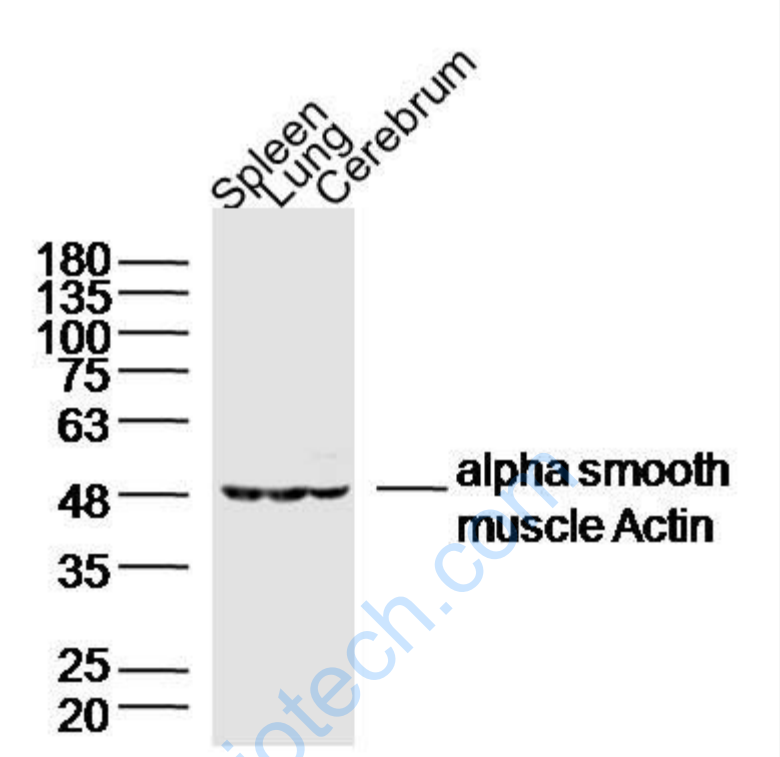
Sample:Stomach (Mouse) Lysate at 40 ug

Primary: Anti-alpha smooth muscle Actin (SL10196R) at 1/300 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 42 kD

Observed band size: 42 kD



Sample:

Spleen (Mouse) Lysate at 40 ug

Lung (Mouse) Lysate at 40 ug

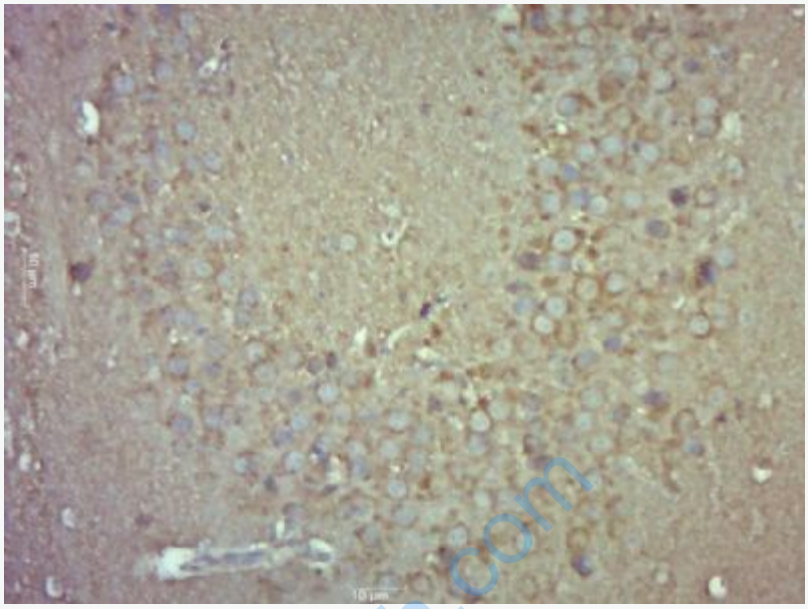
Cerebrum (Mouse) Lysate at 40 ug

Primary: Anti-alpha smooth muscle Actin (SL10196R) at 1/300 dilution

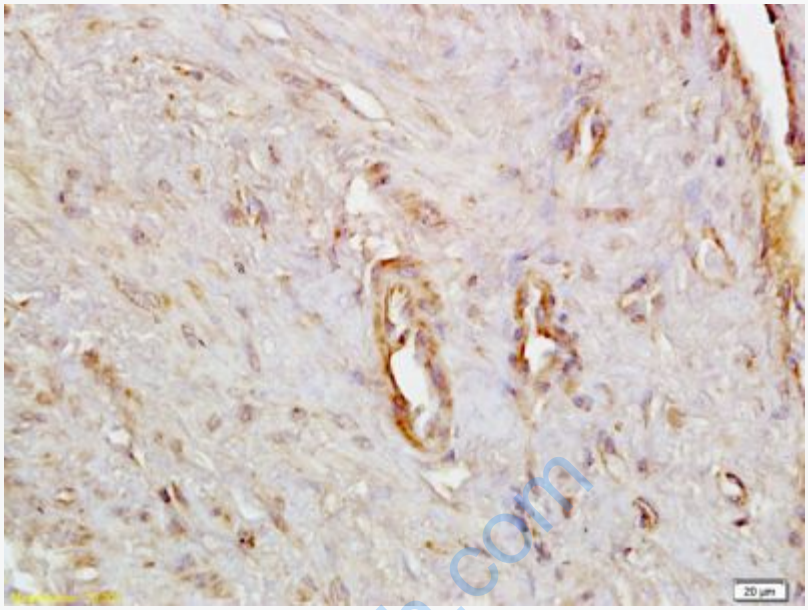
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 42 kD

Observed band size: 42 kD



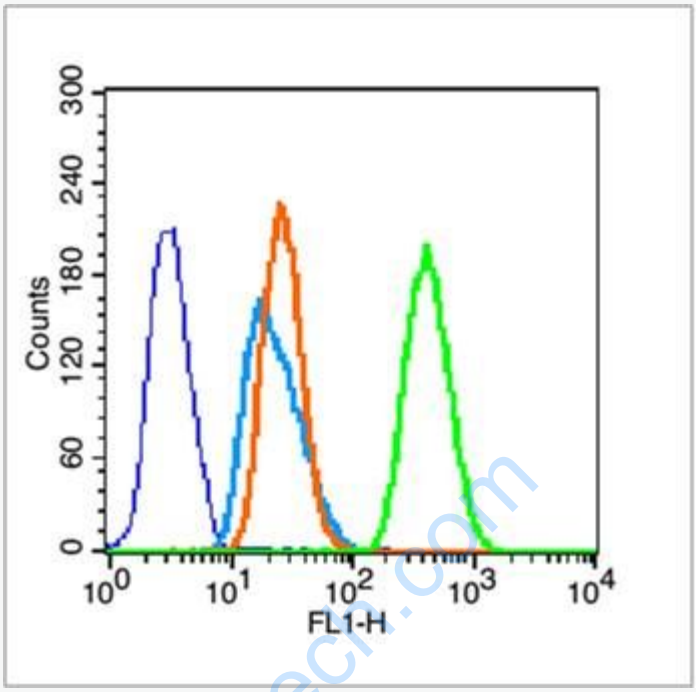
Paraformaldehyde-fixed, paraffin embedded (Mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (alpha smooth muscle Actin) Polyclonal Antibody, Unconjugated (SL10196R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.



Tissue/cell: Human endometrium tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min;

Incubation: Anti-Actin α/alpha-SMA Polyclonal Antibody, Unconjugated(SL10196R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining



Blank control (blue line): Hela (fixed with 70% ethanol (Overnight at 4℃) and then permeabilized with 90% ice-cold methanol for 30 min on ice).

Primary Antibody (green line): Rabbit Anti-alpha smooth muscle Actin antibody (SL10196R),Dilution: 1µg /10^6 cells;

Isotype Control Antibody (orange line): Rabbit IgG .

Secondary Antibody (white blue line): Goat anti-rabbit IgG-FITC,Dilution: 1µg /test.