

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 α -Smooth Muscle Actin; α Smooth Muscle Actin;

Research Area Tumour Cell biology immunology Cytoskeleton

Immunogen Species Rabbit

Clonality Polyclonal

React Species Human, Mouse, Rat, (predicted: Rabbit,)

Applications WB=1:2000-10000,IHC-P=1:200-800,IHC-F=1:200-800,IF=1:200-800,Flow-Cyt=1 μ g/Test
(Paraffin sections need antigen repair)
not yet tested in other applications.
optimal dilutions/concentrations should be determined by the end user.

Theoretical molecular weight 42kDa

Cellular localization cytoplasmic

Form Liquid

Concentration 1mg/ml

immunogen KLH conjugated synthetic peptide derived from human Actin alpha: 165-260/377

Lsotype IgG

Purification affinity purified by Protein A

**Buffer Solution**

1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.

Storage

Shipped at 4°C. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.

Attention

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

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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.

Product Detail**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:
P62736

Gene ID:
59

Database links:

[Entrez Gene: 101021287](#) Baboon

[Entrez Gene: 515610](#) Cow

[Entrez Gene: 59](#) Human

[Entrez Gene: 11475](#) Mouse

[Entrez Gene: 733615](#) Pig

[Entrez Gene: 100009271](#) Rabbit

[Entrez Gene: 81633](#) Rat

[Omim: 102620](#) Human

[SwissProt: P62739](#) Cow

[SwissProt: P62736](#) Human

[SwissProt: P62737](#) Mouse

[SwissProt: P62740](#) Rabbit

[SwissProt: P62738](#) Rat

[Unigene: 500483](#) Human

[Unigene: 213025](#) Mouse

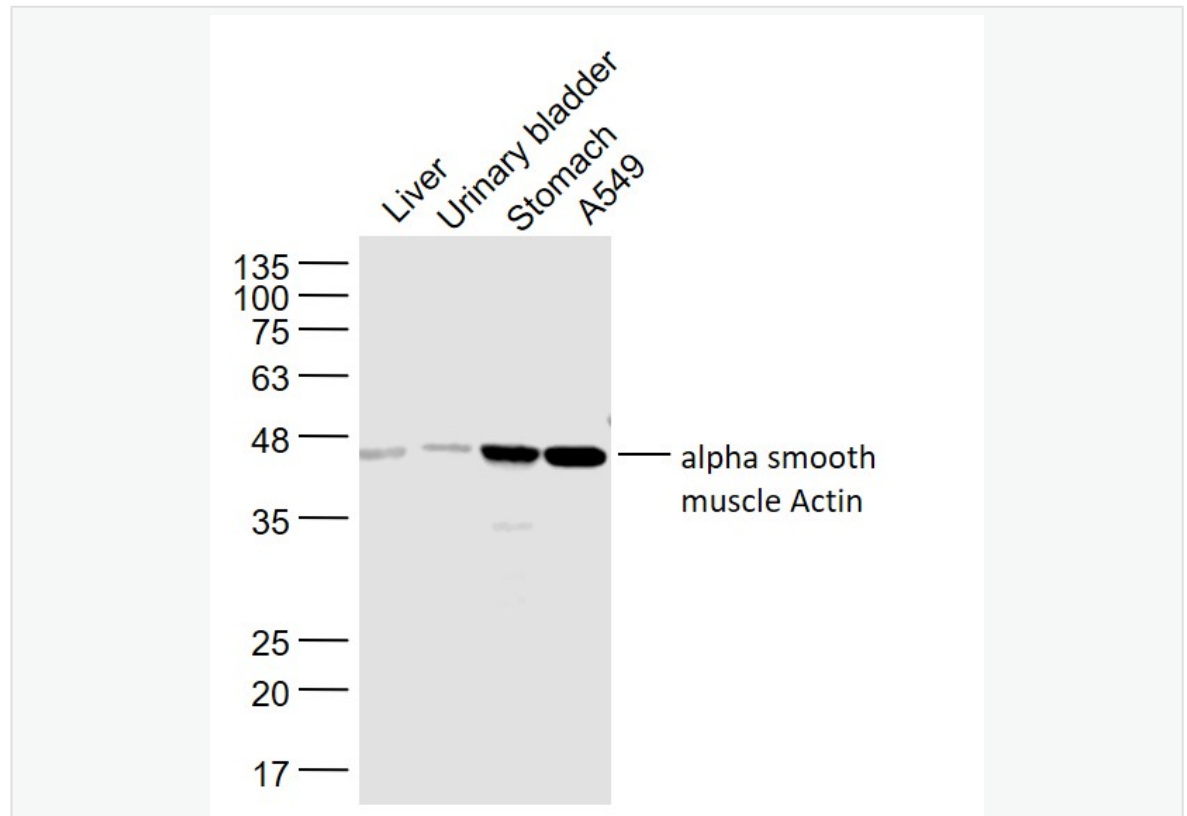
[Unigene: 195319](#) Rat

[Unigene: 3114](#) Rat

Actin α/α -Actin 是一种具有收缩能力的微丝蛋白， α -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、心肌和肌源性 Tum 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 cells Tumour 的有效工具。

**Product
Picture**



Sample:

Liver (Rat) Lysate at 40 ug

Urinary bladder (Rat) Lysate at 40 ug

Stomach (Mouse) Lysate at 40 ug

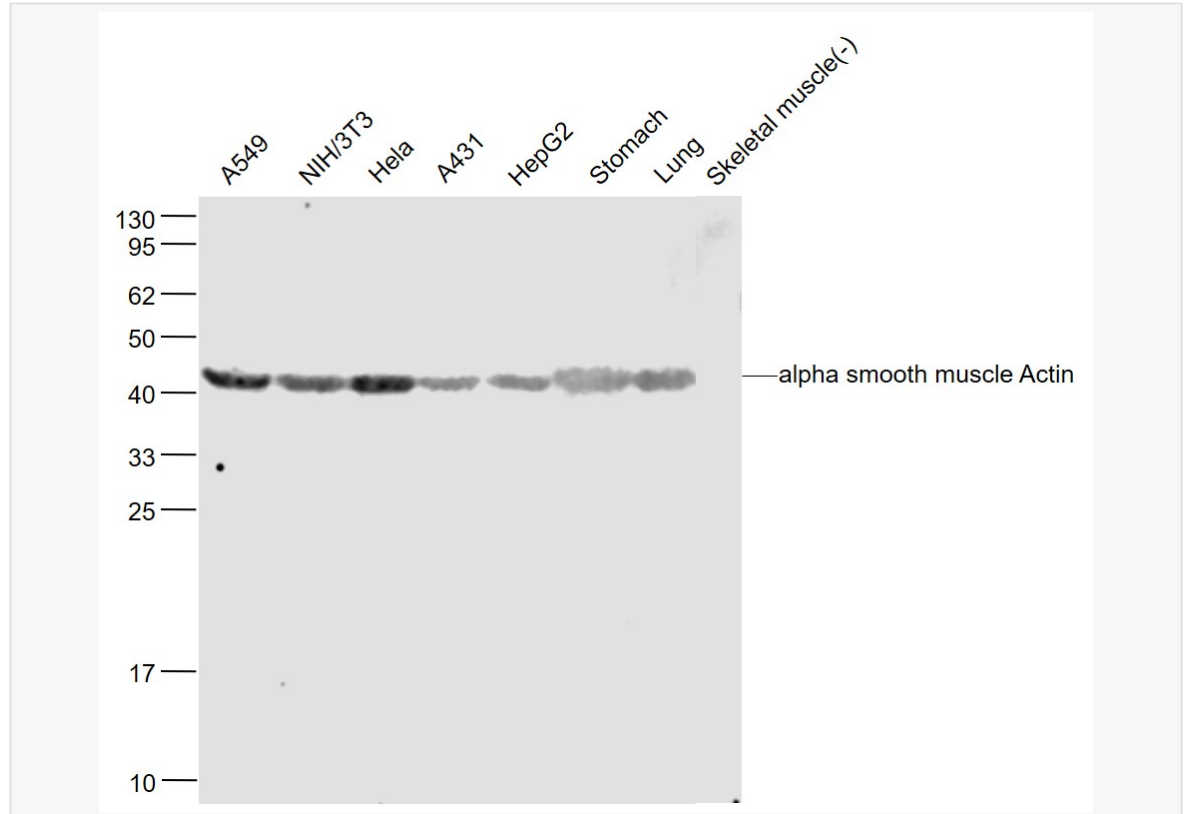
A549 (Cell) Lysate at 30 ug

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:

A549(Human) Cell Lysate at 30 ug

NIH/3T3(Mouse) Cell Lysate at 30 ug

HeLa(Human) Cell Lysate at 30 ug

A431(Human) Cell Lysate at 30 ug

HepG2(Human) Cell Lysate at 30 ug

Stomach (Mouse) Lysate at 40 ug

Lung (Mouse) Lysate at 40 ug

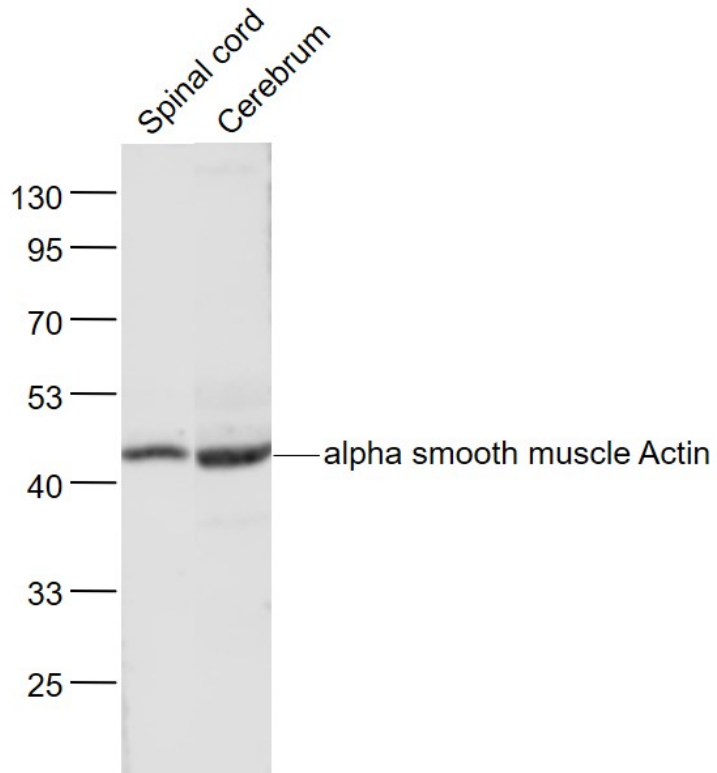
Skeletal muscle(-) (Mouse) Lysate at 40 ug

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: 42 kD



Sample:

Spinal cord (Mouse) Lysate at 40 ug

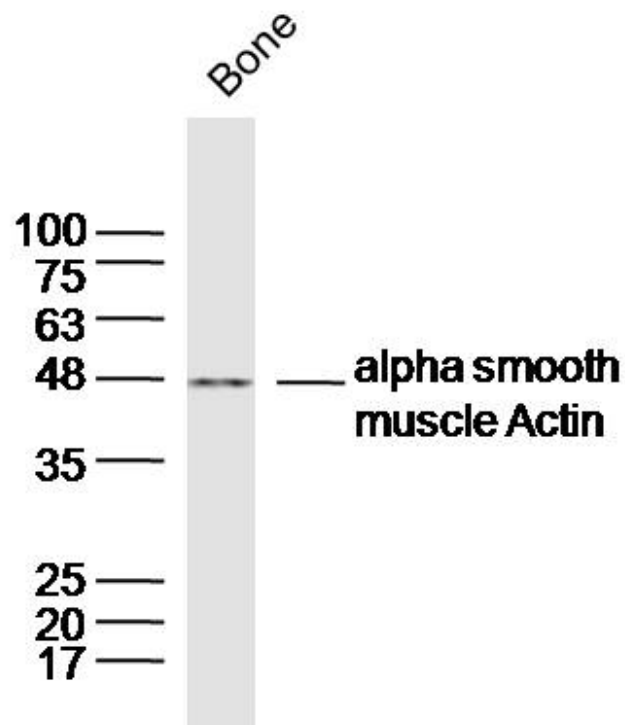
Cerebrum (Mouse) Lysate at 40 ug

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: 42 kD



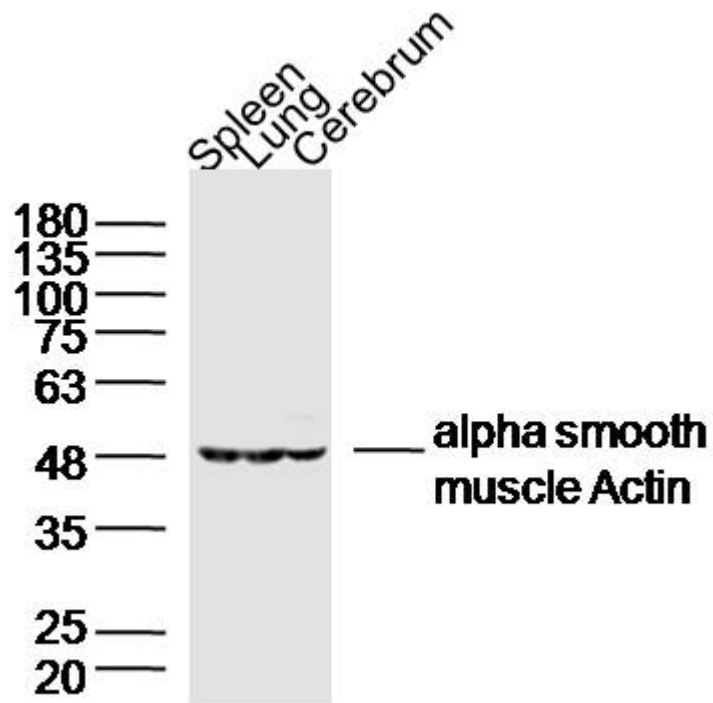
Sample: Bone (mouse) Lysate at 40 ug

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:

Spleen (Mouse) Lysate at 40 ug

Lung (Mouse) Lysate at 40 ug

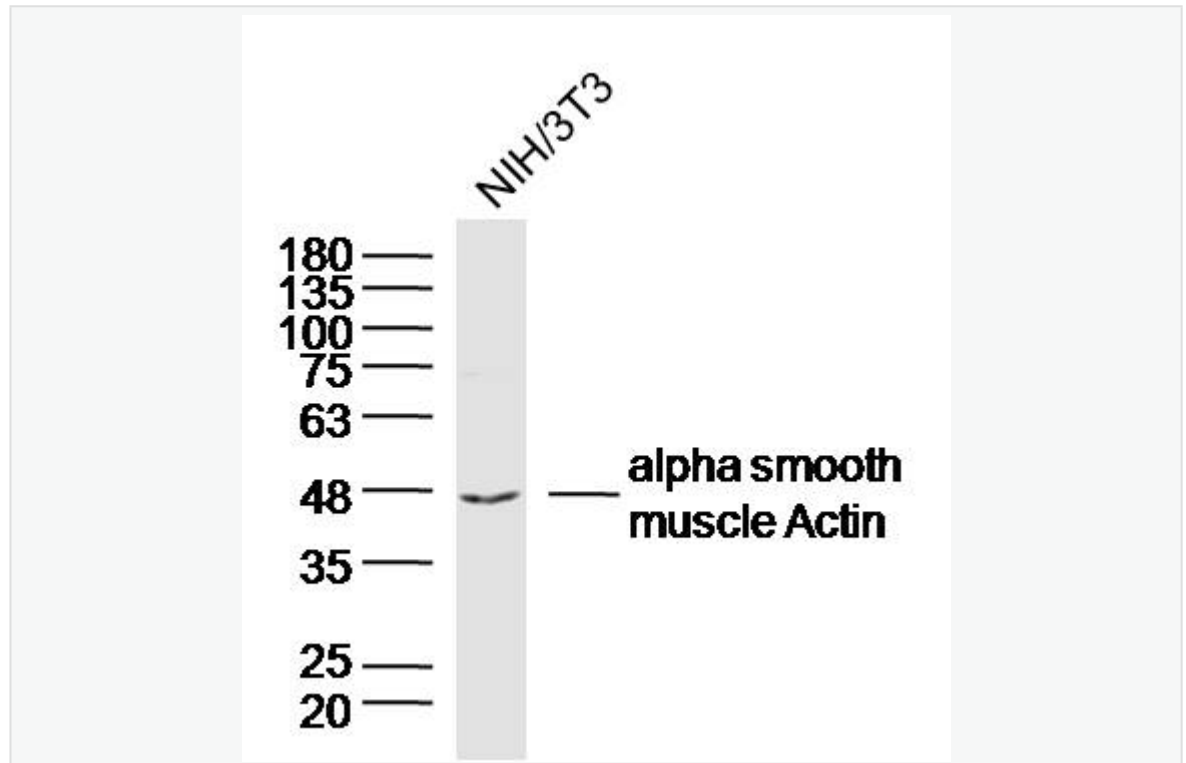
Cerebrum (Mouse) Lysate at 40 ug

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



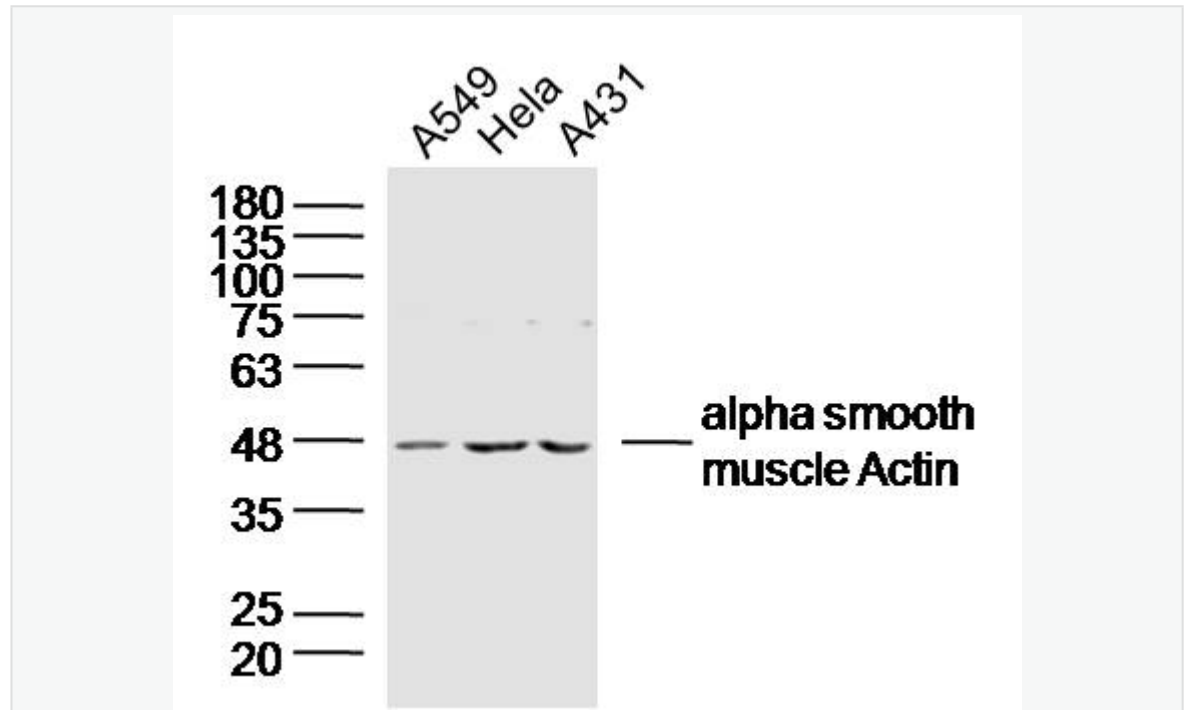
Sample:NIH/3T3(human) Cell Lysate at 40 ug

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

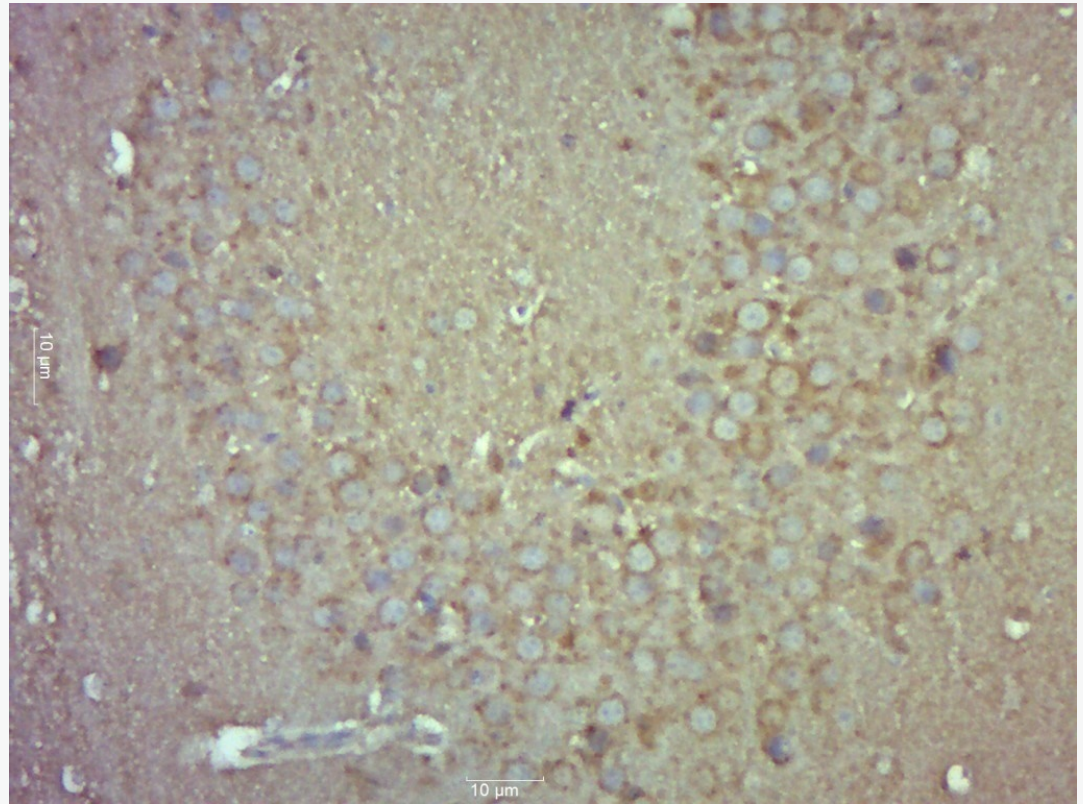
A431 Cell Lysate at 40 ug

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

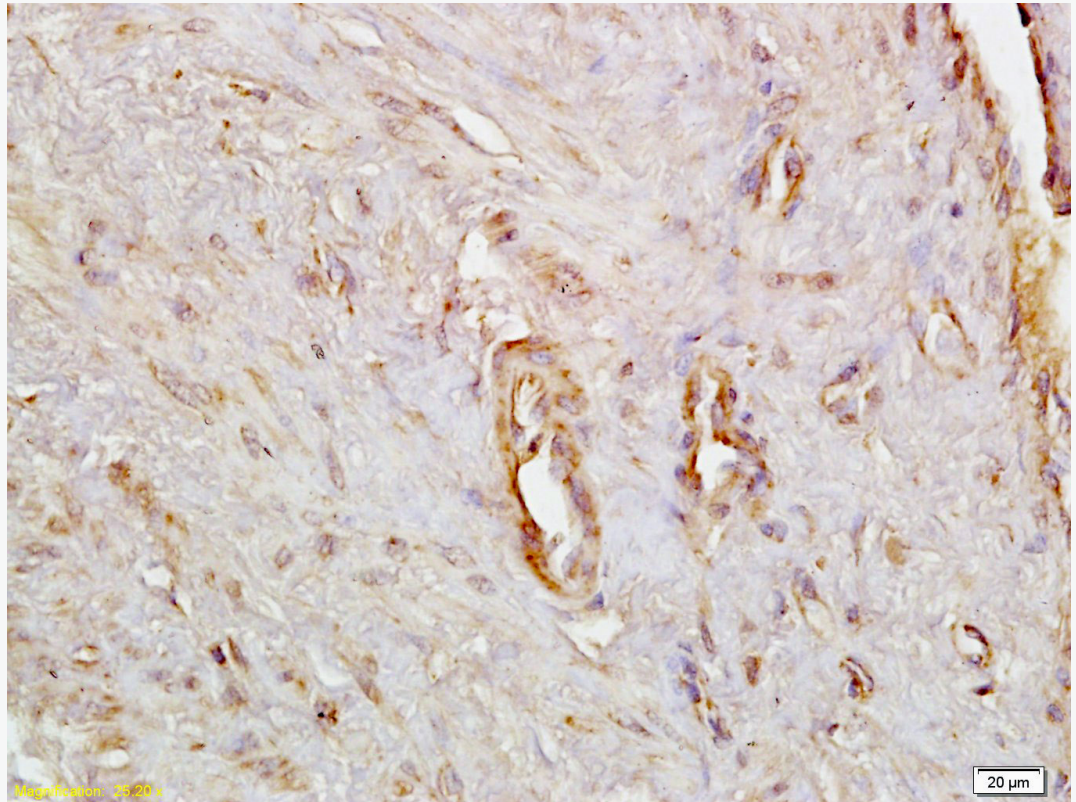
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 42 kD

Observed band size: 42 kD



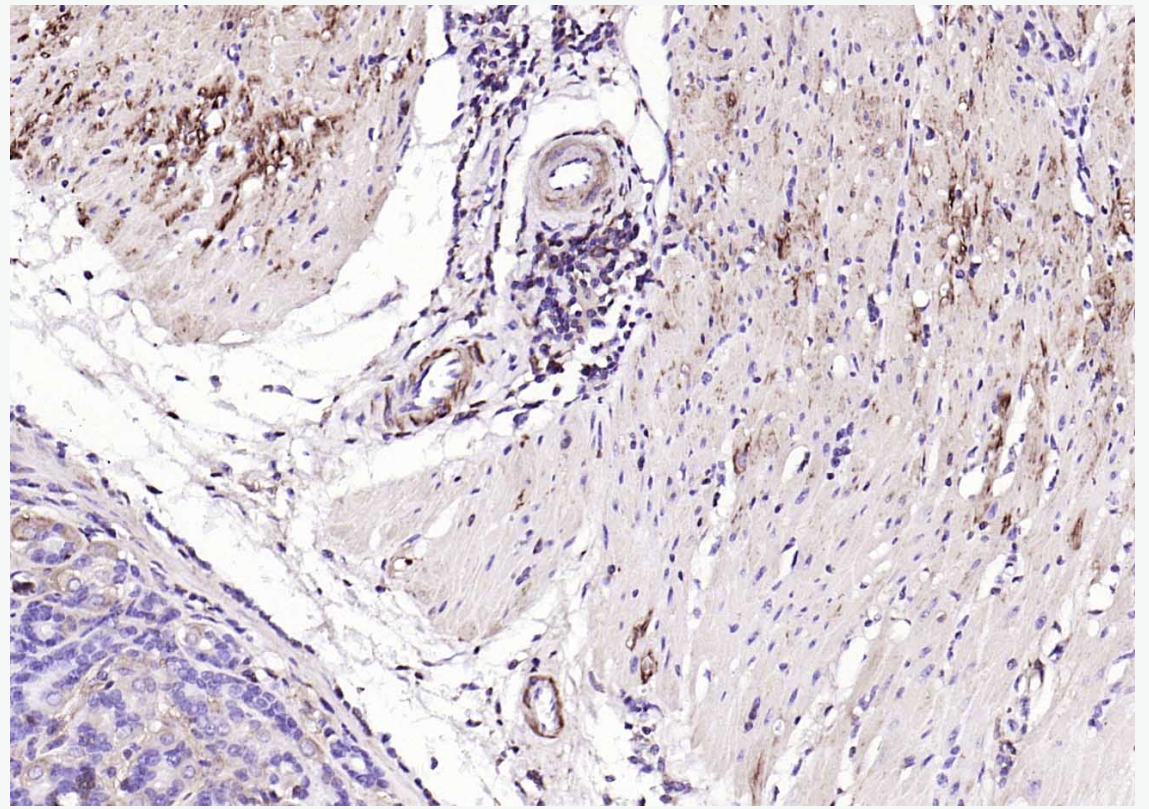
Paraformaldehyde-fixed, paraffin embedded (Mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (alpha smooth muscle Actin)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



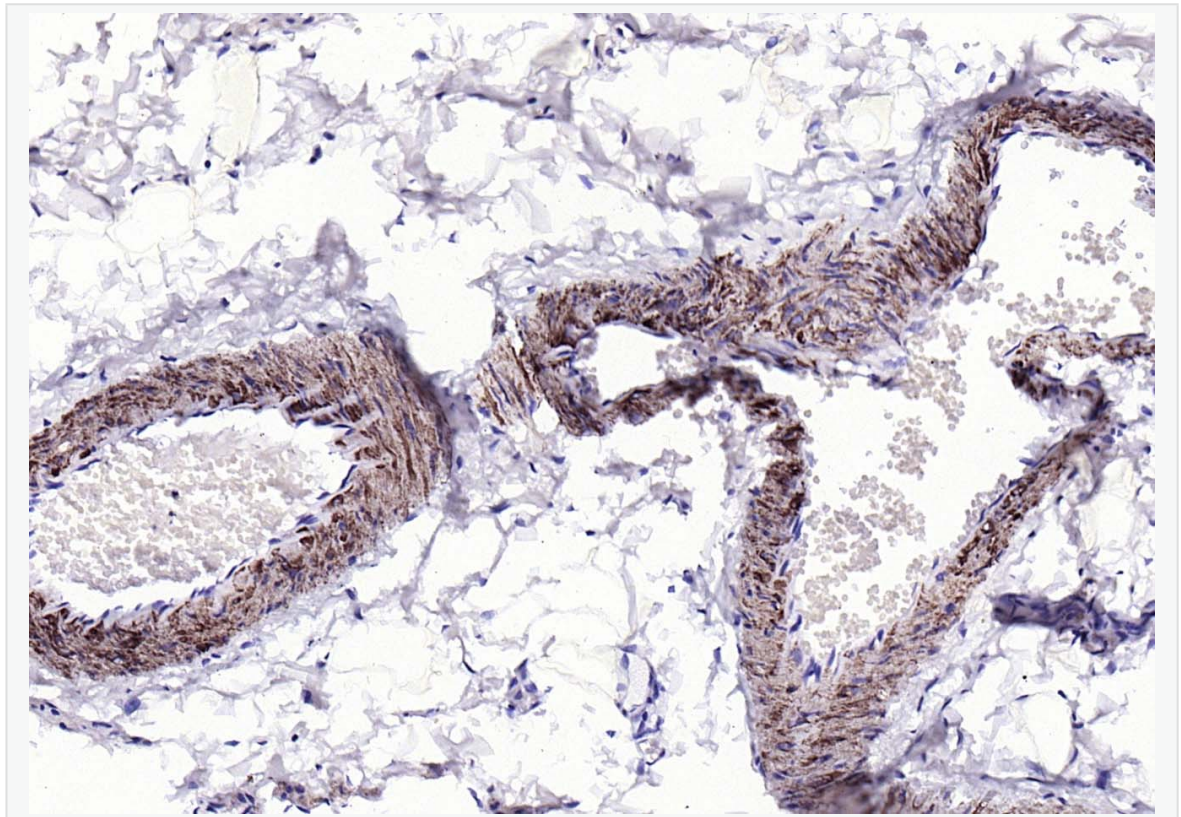
Tissue/cell: Human endometrium tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer (1M, 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°C for 20 min;

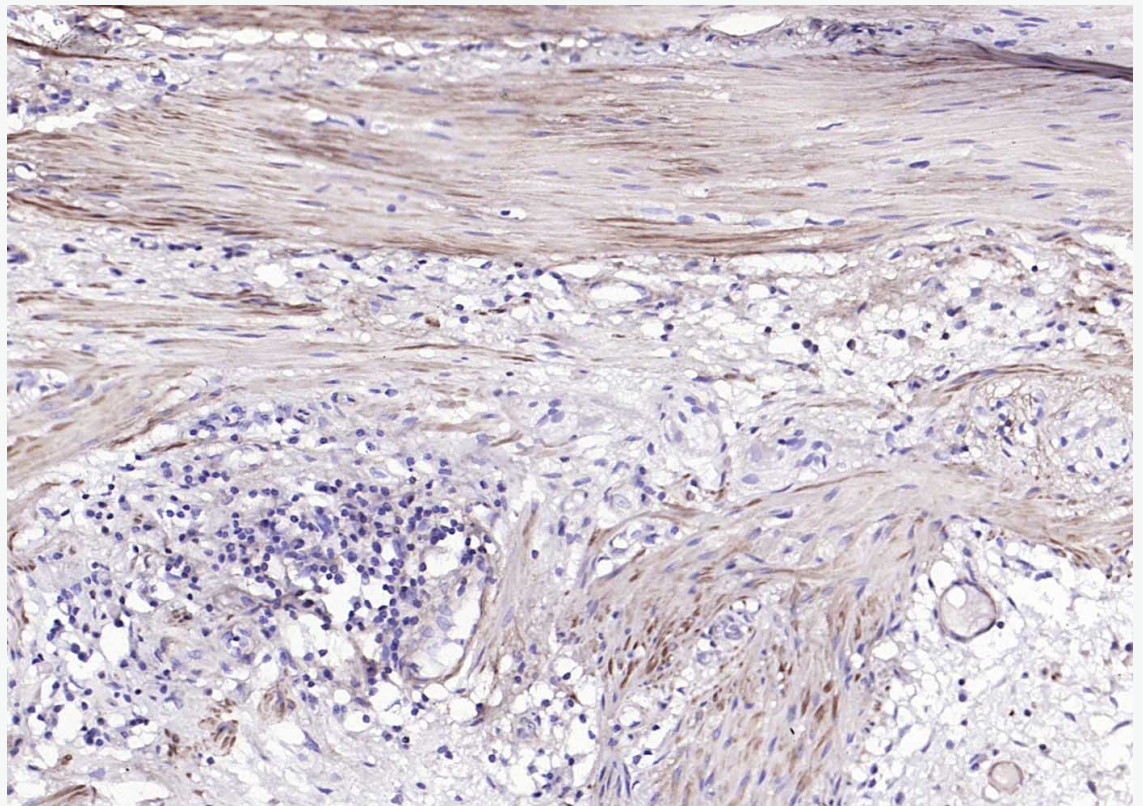
Incubation: Anti-Actin α /alpha-SMA Polyclonal Antibody, Unconjugated(SL10196R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining



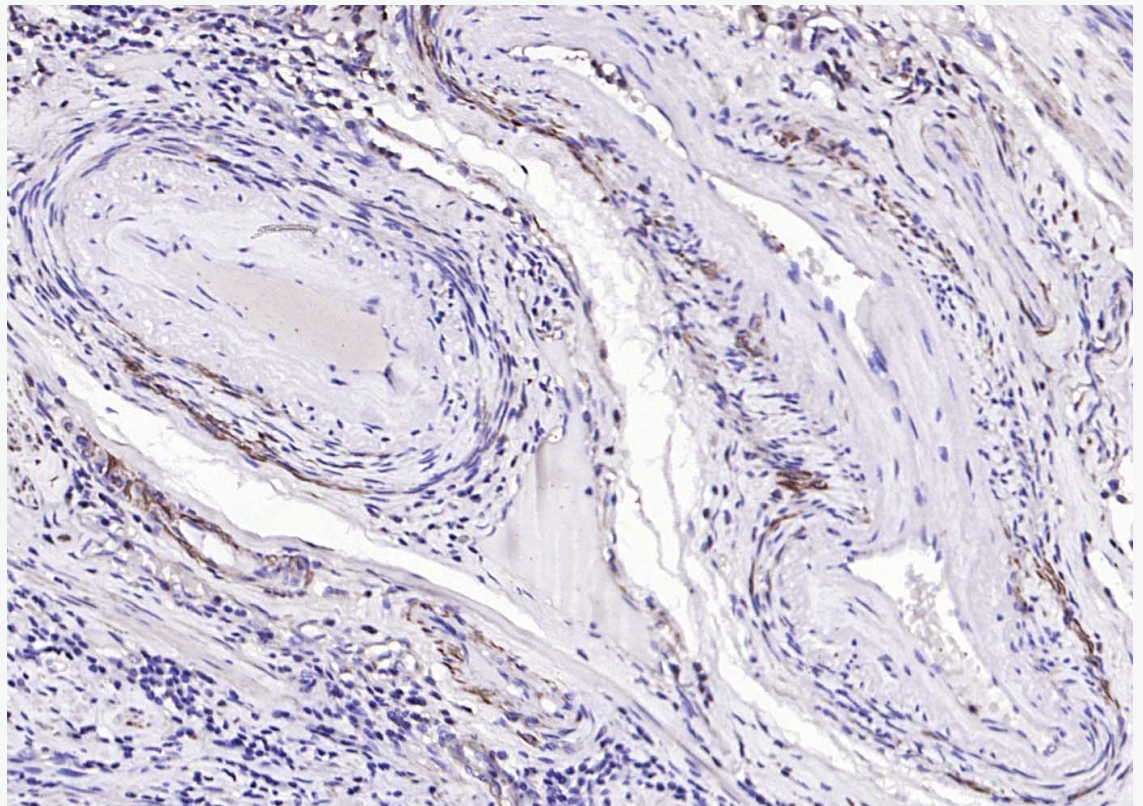
Paraformaldehyde-fixed, paraffin embedded (mouse stomach); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (alpha smooth muscle Actin) Polyclonal Antibody, Unconjugated (SL10196R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



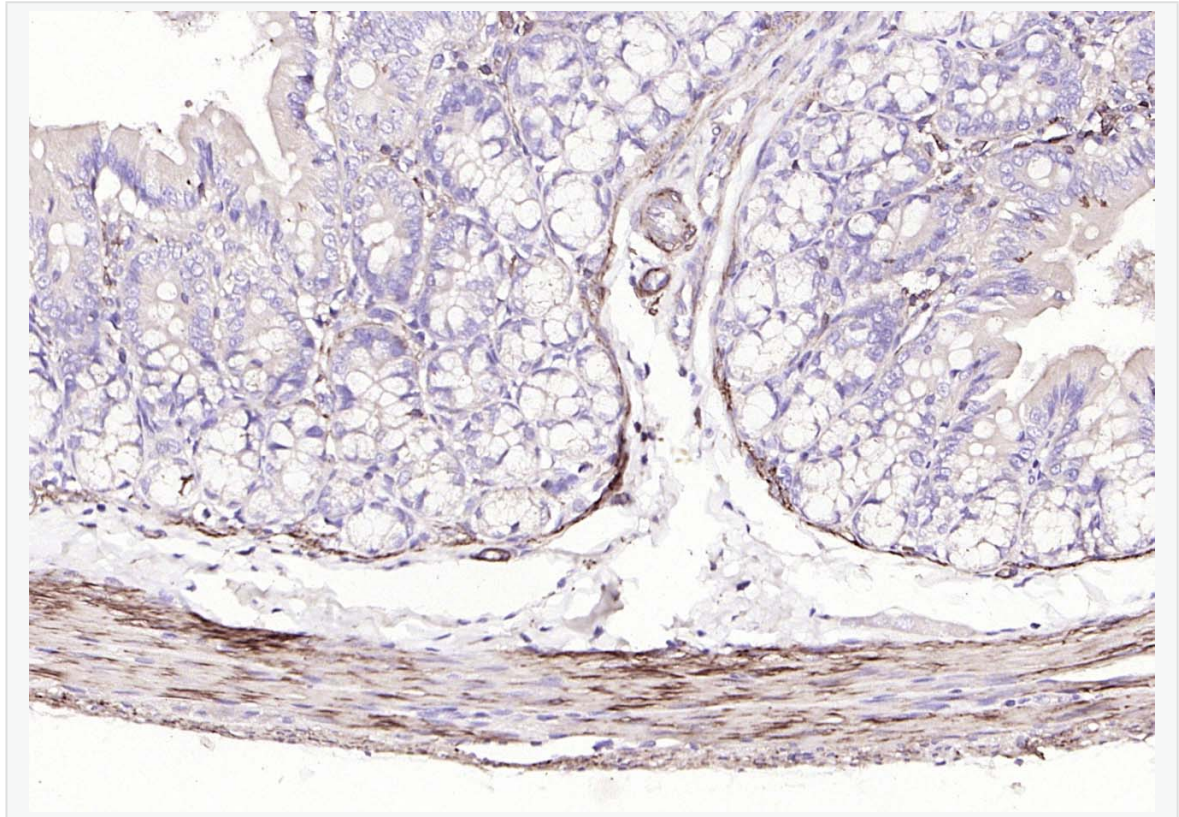
Paraformaldehyde-fixed, paraffin embedded (Human duodenum); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (alpha smooth muscle Actin) Polyclonal Antibody, Unconjugated (SL10196R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



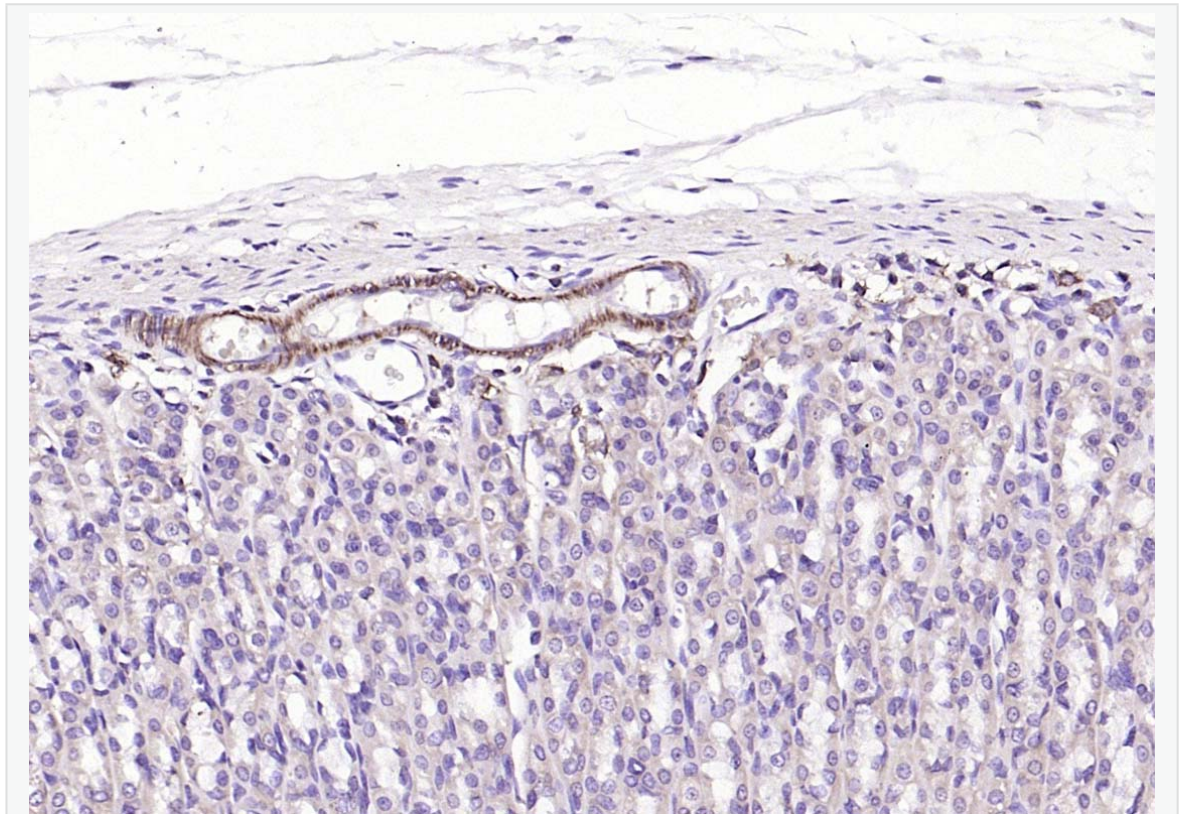
Paraformaldehyde-fixed, paraffin embedded (human colon carcinoma); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (alpha smooth muscle Actin) Polyclonal Antibody, Unconjugated (SL10196R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and



Paraformaldehyde-fixed, paraffin embedded (human cervical carcinoma); 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 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and



Paraformaldehyde-fixed, paraffin embedded (rat colon); 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 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



Paraformaldehyde-fixed, paraffin embedded (rat stomach); 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 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.