SunLong Biotech Co.,LTD
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Rabbit Anti-SMAD7 antibody

SL0566R

Product Name	SMAD7
Chinese Name	Smad7 抗体
Alias	MAD (mothers against decapentaplegic Drosophila) homolog 7; MAD; Mad homolog 7; MAD r against decapentaplegic homolog 7; MADH 7; MADH 8; MADH8; Mothers Against Decapenta Drosophila Homolog of 7; Mothers against decapentaplegic homolog 7; Mothers against decape homolog 8; Mothers against DPP homolog 7; Mothers against DPP homolog 8; SMA- AND MAD-RELATED PROTEIN 7; SMAD 7; SMAD; SMAD family member 7; SMAD, mothers ag homolog 7 (Drosophila); SMAD, mothers against DPP homolog 7; SMAD7_HUMAN.
Research Area	Tumour Cell biology Signal transduction Apoptosis Growth factors and hormones Kinases and P
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Human, Mouse, Rat, (predicted: Pig, Cow,)
Applications	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,Flow-C（Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Theoretical molecular weight	46kDa
Cellular localization	The nucleus cytoplasmic
Form	Liquid
Concentration	1mg/ml
immunogen	KLH conjugated synthetic peptide derived from human Smad7: 1-100/426
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℃. 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 d applications.

PubMed PubMed

Product Detail

The protein encoded by this gene is a nuclear protein that binds the E3 ubiquitin ligase SMURF2 binding, this complex translocates to the cytoplasm, where it interacts with TGF-beta receptor ty (TGFBR1), leading to the degradation of both the encoded protein and TGFBR1. Expression of induced by TGFBR1. Variations in this gene are a cause of susceptibility to colorectal cancer type Several transcript variants encoding different isoforms have been found for this gene. [provided Jun 2010]

Function:
Antagonist of signaling by TGF-beta (transforming growth factor) type 1 receptor superfamily m been shown to inhibit TGF-beta (Transforming growth factor) and activin signaling by associati receptors thus preventing SMAD2 access. Functions as an adapter to recruit SMURF2 to the TG receptor complex. Also acts by recruiting the PPP1R15A-PP1 complex to TGFBR1, which prom dephosphorylation. Positively regulates PDPK1 kinase activity by stimulating its dissociation fro protein YWHAQ which acts as a negative regulator.

Subunit:
Interacts with WWP1. Interacts with COPS5. Interacts with NEDD4L. Interacts with STAMBP. I RNF111, AXIN1 and AXIN2. Interacts with PPP1R15A. Interacts (via MH2 domain) with EP30 with ACVR1B, SMURF1, SMURF2 and TGFBR1; SMAD7 recruits SMURF1 and SMURF2 to t receptor and regulates its degradation. Interacts with PDPK1 (via PH domain).

Subcellular Location:
Nucleus. Cytoplasm. Note=Interaction with NEDD4L or RNF111 or induces translocation from th the cytoplasm. TGF-beta stimulates its translocation from the nucleus to the cytoplasm. PDPK1 translocation from the nucleus to the cytoplasm in response to TGF-beta.

Tissue Specificity:
Ubiquitous with higher expression in the lung and vascular endothelium.

Post-translational modifications:
Phosphorylation on Ser-249 does not affect its stability, nuclear localization or inhibitory functio signaling; however it affects its ability to regulate transcription. Phosphorylated by PDPK1.
Ubiquitinated by WWP1 (By similarity). Polyubiquitinated by RNF111, which is enhanced by A promotes proteasomal degradation. In response to TGF-beta, ubiquitinated by SMURF1; which degradation.
Acetylation prevents ubiquitination and degradation mediated by SMURF1.

DISEASE:
Genetic variations in SMAD7 influence susceptibility to colorectal cancer type 3 (CRCS3) [MIM Colorectal cancer consists of tumors or cancer of either the colon or rectum or both. Cancers of t

intestine are the second most common form of cancer found in males and females. Symptoms in
bleeding, occult blood in stools, bowel obstruction and weight loss. Treatment is based largely on
cancer penetration into the intestinal wall. Surgical cures are possible if the malignancy is confin
intestine. Risk can be reduced when following a diet which is low in fat and high in fiber.

Similarity:
Belongs to the dwarfin/SMAD family.
Contains 1 MH1 (MAD homology 1) domain.
Contains 1 MH2 (MAD homology 2) domain.

SWISS:
O15105

Gene ID:
4092

Database links:

Entrez Gene: 4092 Human

Entrez Gene: 17131 Mouse

Entrez Gene: 81516 Rat

Omim: 602932 Human

SwissProt: O15105 Human

SwissProt: O35253 Mouse

SwissProt: O88406 Rat

Unigene: 465087 Human

transcriptional regulatory factor（Transcriptin Regulators）
Smad7 是转化生长因子(TGF-β)信号通路的抑制分子，Smad7 可干预 MAPK 信号通路,使 E
磷酸化活性的平衡失调,导致促增殖作用强于生长抑制作用,从而有助于细胞向恶性方向发

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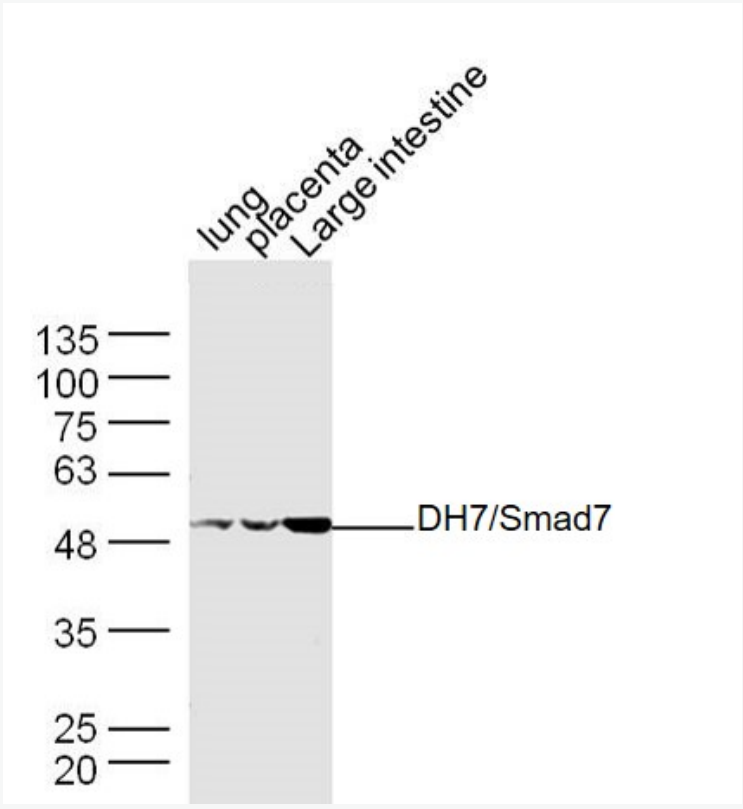
Product Picture



Sample:

Lung(Mouse) Lysate at 30 ug

Placenta(Mouse) Lysate at 30 ug

Large intestine(Mouse) Lysate at 30 ug

Primary: Anti- MADH7/Smad7 (SL0566R) at 1/300 dilution

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

Predicted band size: 46 kD

Observed band size: 50 kD

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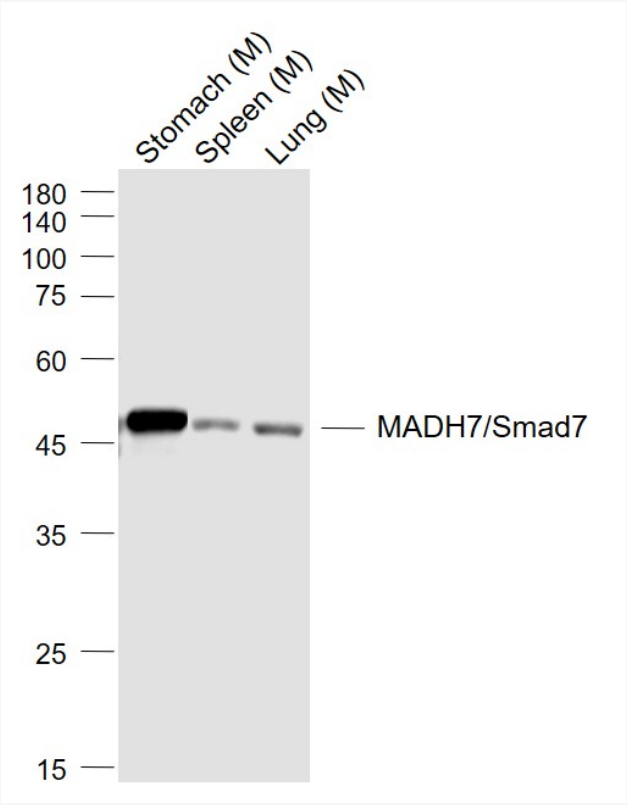

Sample:

Lane 1: Stomach (Mouse) Lysate at 40 ug

Lane 2: Spleen (Mouse) Lysate at 40 ug

Lane 3: Lung (Mouse) Lysate at 40 ug

Primary: Anti-MADH7/Smad7 (SL0566R) at 1/1000 dilution

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

Predicted band size: 50 kD

Observed band size: 50 kD

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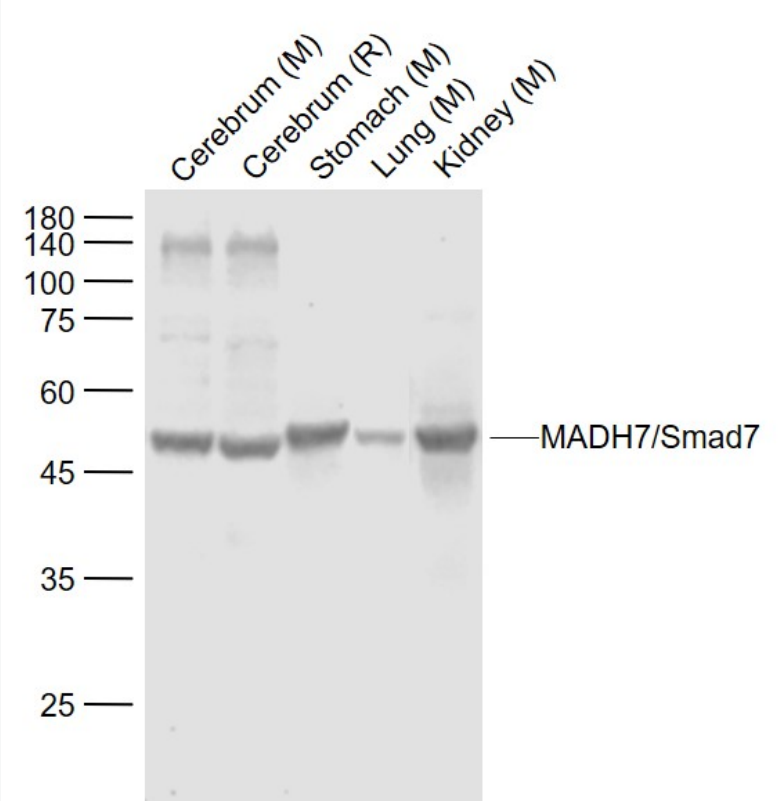

Sample:

Lane 1: Cerebrum (Mouse) Lysate at 40 ug

Lane 2: Cerebrum (Rat) Lysate at 40 ug

Lane 3: Stomach (Mouse) Lysate at 40 ug

Lane 4: Lung (Mouse) Lysate at 40 ug

Lane 5: Kidney (Mouse) Lysate at 40 ug

Primary: Anti-MADH7/Smad7 (SL0566R) at 1/1000 dilution

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

Predicted band size: 50 kD

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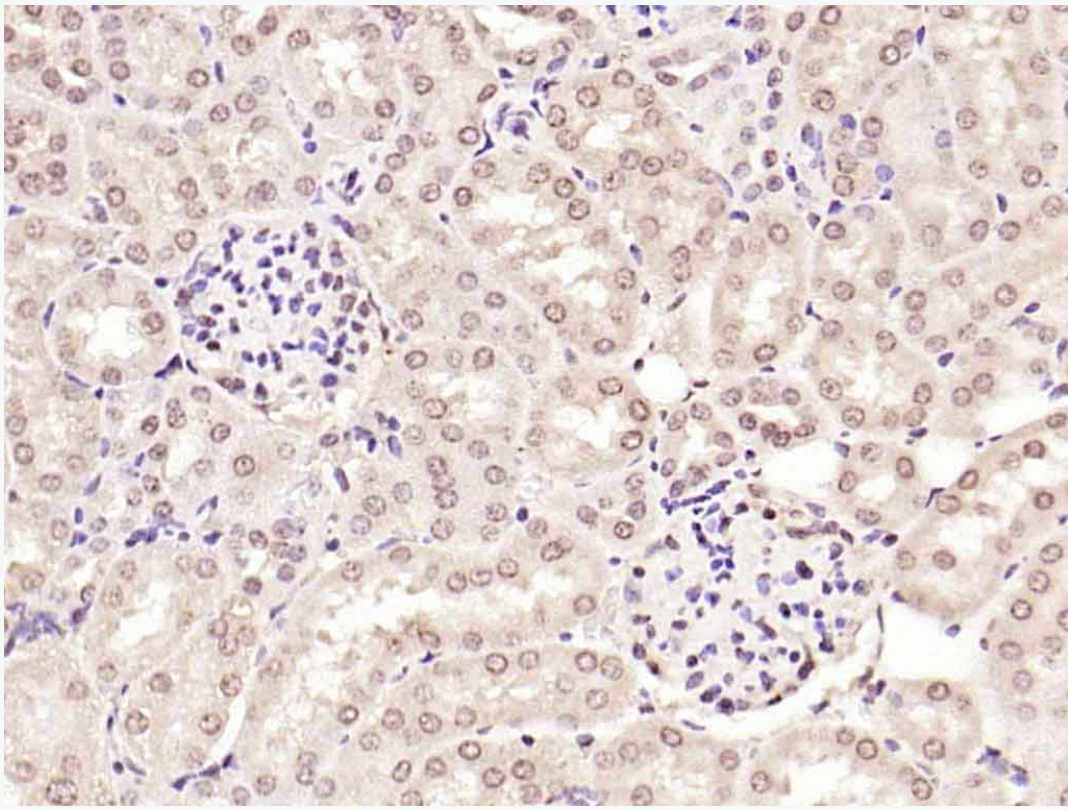
Observed band size: 50 kD



Paraformaldehyde-fixed, paraffin embedded (mouse kidney); Antigen retrieval by boiling in s
citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 2
Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (MADH7)
Antibody, Unconjugated (SL0566R) at 1:200 overnight at 4°C, followed by operating accordi
Kit(Rabbit) (sp-0023) instructionsand DAB staining.

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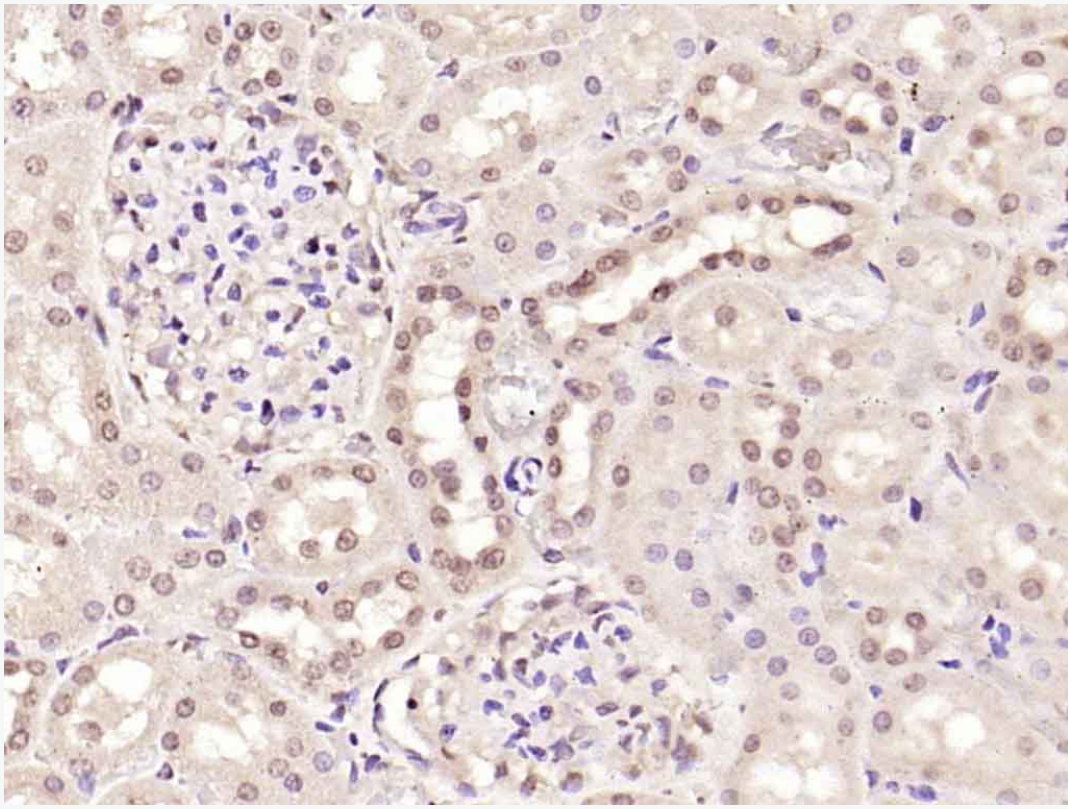

Paraformaldehyde-fixed, paraffin embedded (rat kidney); Antigen retrieval by boiling in sodiu
buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 min
Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (MADH7)
Antibody, Unconjugated (SL0566R) at 1:200 overnight at 4°C, followed by operating accordi
Kit(Rabbit) (sp-0023) instructionsand DAB staining.

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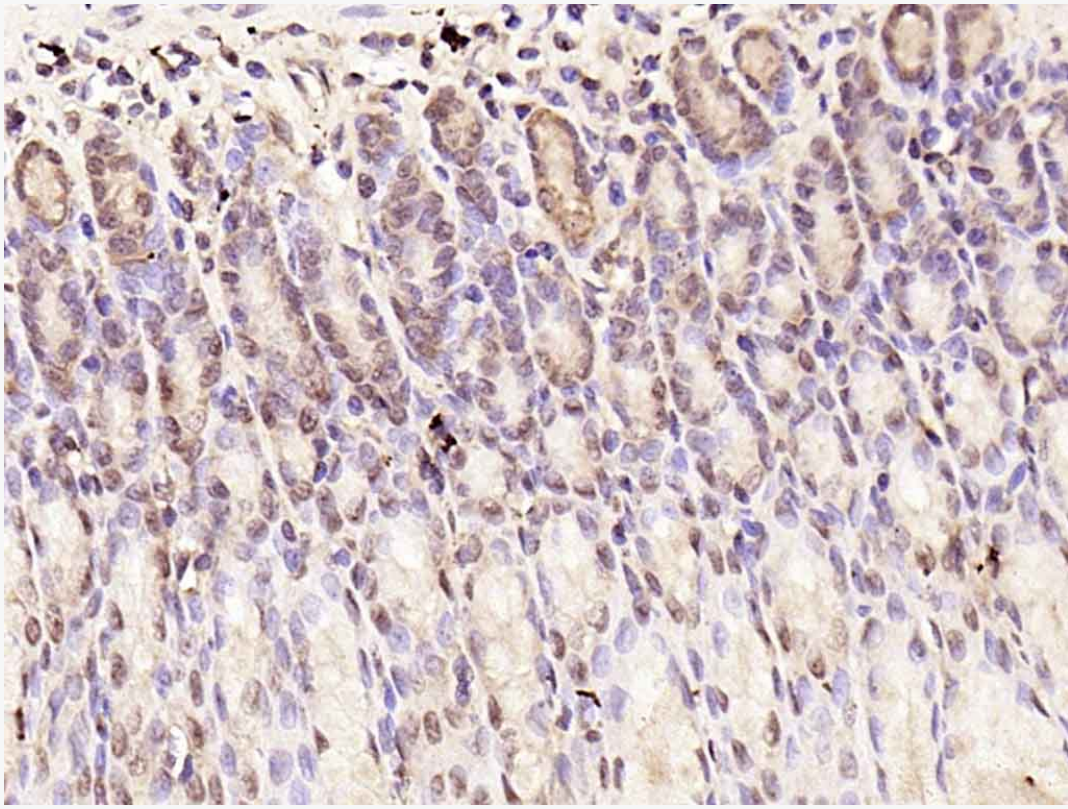

Paraformaldehyde-fixed, paraffin embedded (rat stomach); Antigen retrieval by boiling in sod
buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 min
Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (MADH7)
Antibody, Unconjugated (SL0566R) at 1:200 overnight at 4°C, followed by operating accordi
Kit(Rabbit) (sp-0023) instructionsand DAB staining.

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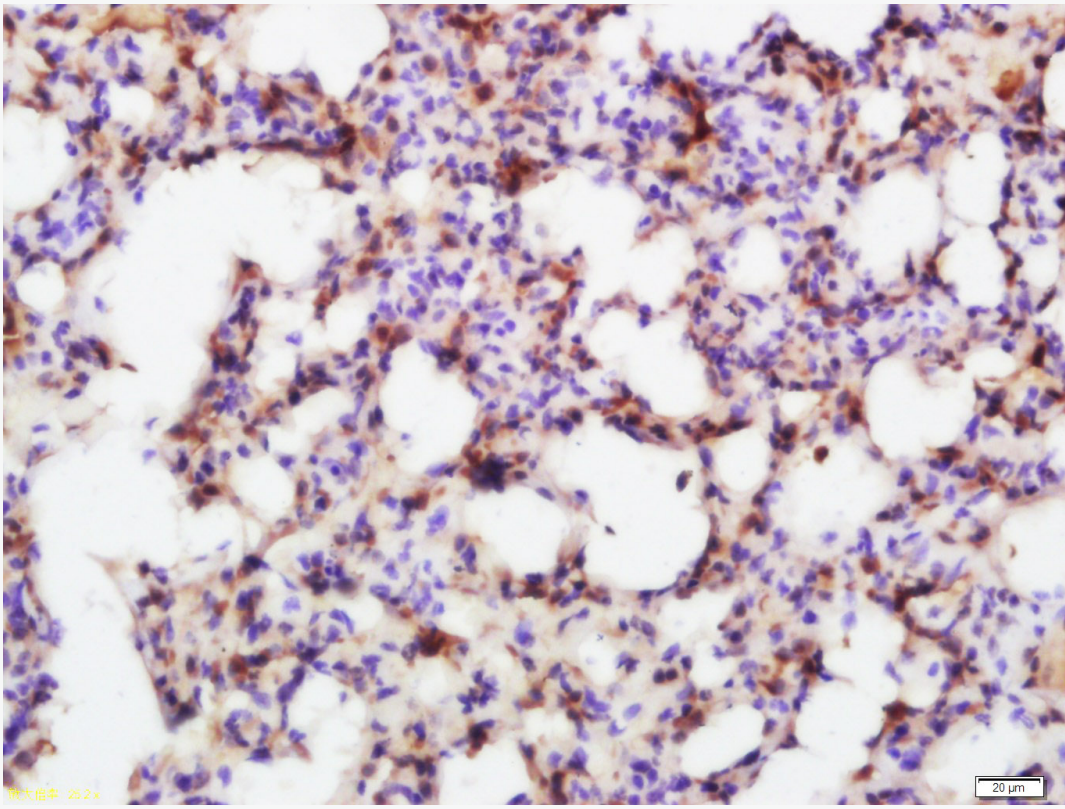

Paraformaldehyde-fixed, paraffin embedded (rat lung); Antigen retrieval by boiling in sodium buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 min Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Smad7) P Antibody, Unconjugated (SL0566R) at 1:600 overnight at 4°C, followed by a conjugated seco (sp-0023) for 20 minutes and DAB staining.

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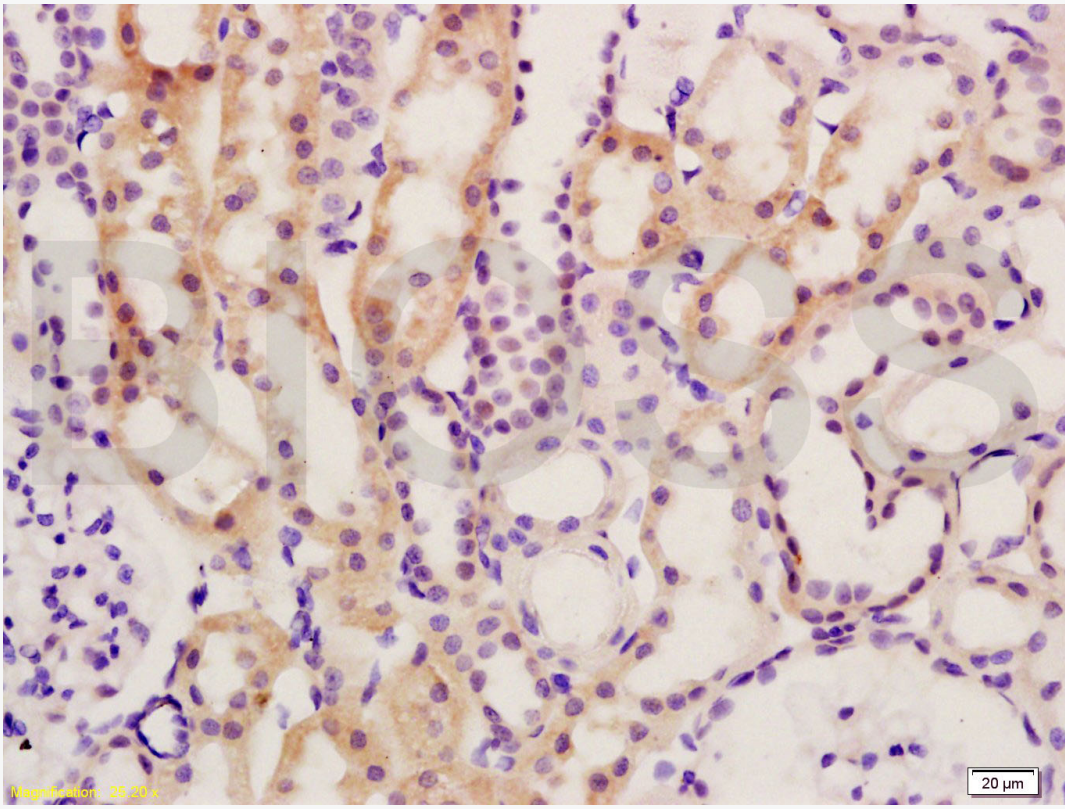

Tissue/cell: rat kidney tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer (1M, pH 6.0), Boiling bathing for 15min; Block endogenous

by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ fo

Incubation: Anti-Smad7/Smad6 Polyclonal Antibody, Unconjugated(SL0071R) 1:200, overni

followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining

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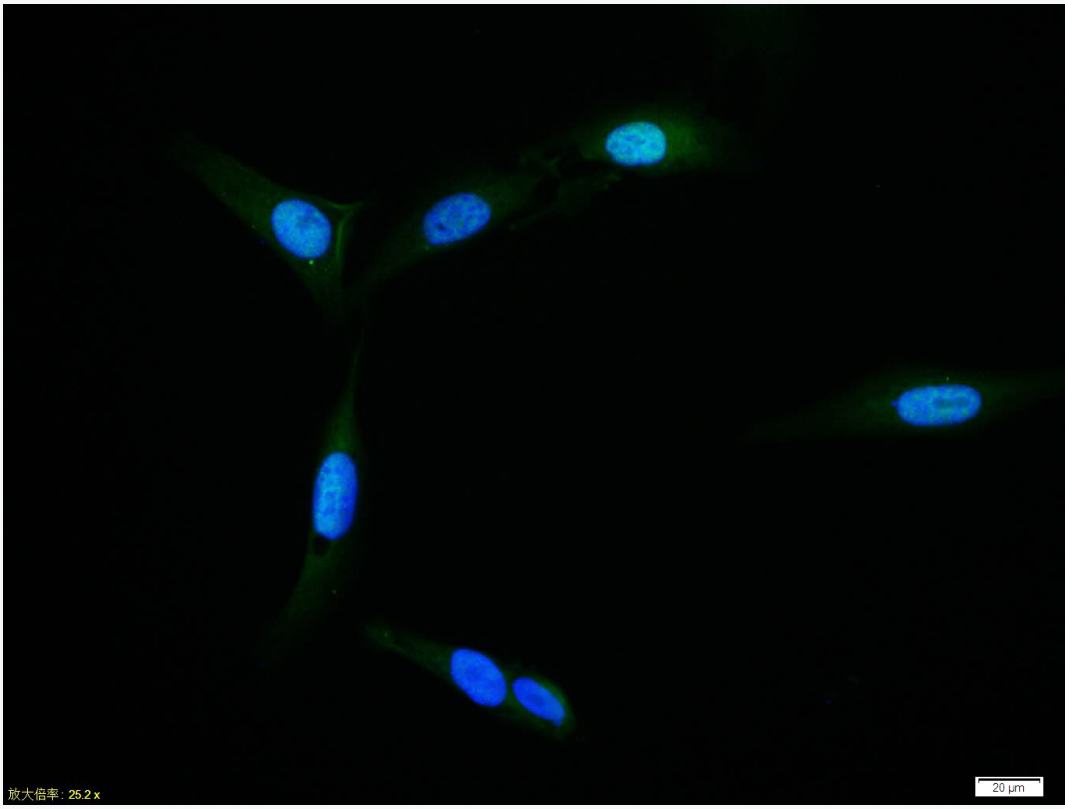

U-2OS cell; 4% Paraformaldehyde-fixed; Triton X-100 at room temperature for 20 min; Bloc
(normal goat serum, C-0005) at 37°C for 20 min; Antibody incubation with (MADH7/Smad7)
Antibody, Unconjugated (SL0566R) 1:100, 90 minutes at 37°C; followed by a conjugated Go
Anti-Rabbit IgG antibody at 37°C for 90 minutes, DAPI (blue, C02-04002) was used to stain
nuclei.

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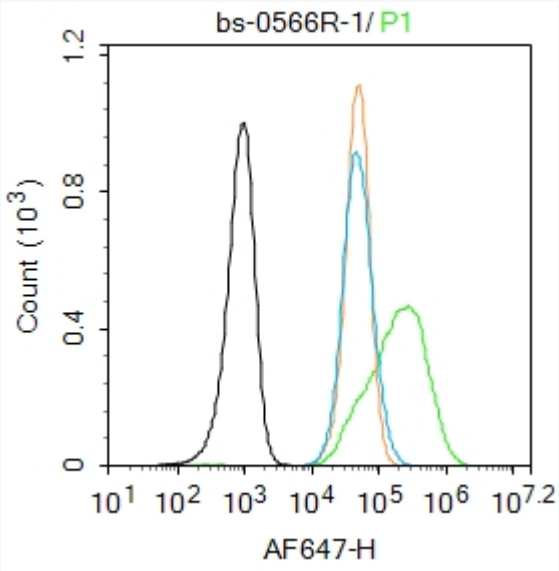

Blank control: SH-SY5Y.

Primary Antibody (green line): Rabbit Anti-MADH7/Smad7 antibody (SL0566R)

Dilution: 1µg /10^6 cells;

Isotype Control Antibody (orange line): Rabbit IgG .

Secondary Antibody : Goat anti-rabbit IgG-AF647

Dilution: 1µg /test.

Protocol

The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with 90 methanol for 20 min at-20°C.The cells were then incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at room temperature .Cells stained with Primary Antibo min at room temperature. The secondary antibody used for 40 min at room temperature. Acqu 20,000 events was performed.