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# Smad5 Rabbit mAb

Catalog # AP76096

## Product Information

| | |
|---|---|
| **Application** | WB, IHC-P, FC |
| **Primary Accession** | Q99717 |
| **Reactivity** | Rat, Human, Mouse |
| **Host** | Rabbit |
| **Clonality** | Monoclonal Antibody |
| **Isotype** | IgG |
| **Conjugate** | Unconjugated |
| **Purification** | Affinity Purified |
| **Calculated MW** | 52258 |

## Additional Information

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|---|---|
| **Gene ID** | 4090 |
| **Other Names** | SMAD5 |
| **Dilution** | WB~~1:1000-1:5000 IHC-P~~N/A FC~~1:20-1:100 |
| **Format** | Liquid in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA. |
| **Storage** | Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles. |

## Protein Information

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|---|---|
| **Name** | SMAD5 ( HGNC:6771) |
| **Synonyms** | MADH5 |
| **Function** | Transcriptional regulator that plays a role in various cellular processes including embryonic development, cell differentiation, angiogenesis and tissue homeostasis (PubMed:12064918, PubMed:16516194). Upon BMP ligand binding to their receptors at the cell surface, is phosphorylated by activated type I BMP receptors (BMPRIs) and associates with SMAD4 to form a heteromeric complex which translocates into the nucleus acting as transcription factor (PubMed:9442019). In turn, the hetero-trimeric complex recognizes cis- regulatory elements containing Smad Binding Elements (SBEs) to modulate the outcome of the signaling network (PubMed:33510867). Non-phosphorylated SMAD5 has a cytoplasmic role in energy metabolism regulation by promoting mitochondrial respiration and glycolysis in response to cytoplasmic pH changes (PubMed:28675158). Mechanistically, interacts with hexokinase 1/HK1 and thereby accelerates glycolysis |

(PubMed:28675158).

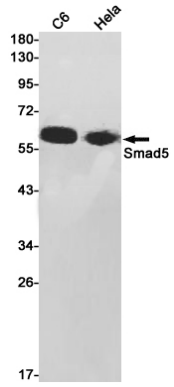
**Cellular Location** Cytoplasm. Nucleus Mitochondrion. Note=Cytoplasmic in the absence of ligand. Migrates to the nucleus when complexed with SMAD4

**Tissue Location** Ubiquitous.

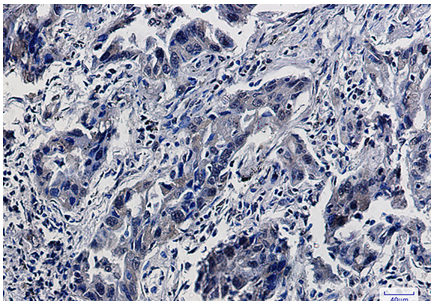
## Background

Transcriptional modulator activated by BMP (bone morphogenetic proteins) type 1 receptor kinase. Smad5 is a receptor-regulated Smad (R-Smad). Smad5 is required for normal development of the cardiovascular system in vivo; lack of the Smad5 gene results in apoptosis of cardiac myocytes. 3 Upregulation of Smad5 has been reported to mediate apoptosis of gastric epithelial cells induced by Helicobacter pylori infection. Tissue specificity: Ubiquitous.

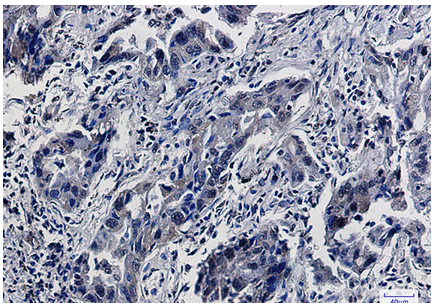
## Images

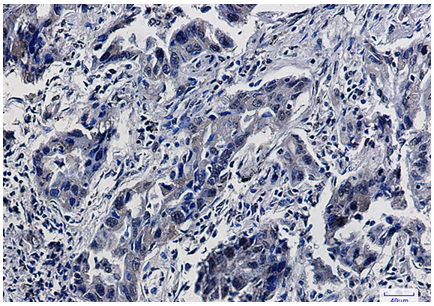



Western blot analysis of Smad5 in C6, Hela lysates using Smad5 antibody.



Immunohistochemistry analysis of paraffin-embedded Human lung cancer using SMAD5 antibody.High-pressure and temperature Sodium Citrate pH 6.0 was used for antigen retrieval.





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