

KD-Validated Anti-SMAD5 Rabbit Monoclonal Antibody
Rabbit monoclonal antibody
Catalog # AGI1284**Specification****KD-Validated Anti-SMAD5 Rabbit Monoclonal Antibody - Product Information**

Application	WB, FC, ICC
Primary Accession	Q99717
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Calculated MW	Predicted, 52 kDa , observed, 52 kDa KDa
Gene Name	SMAD5
Aliases	SMAD Family Member 5; JV5-1; MADH5; Mothers Against Decapentaplegic Homolog; DWFC; MAD, Mothers Against Decapentaplegic Homolog 5 (Drosophila); Mothers Against Decapentaplegic, Drosophila, Homolog Of, 5; SMAD, Mothers Against DPP Homolog 5 (Drosophila) 2; MAD, Mothers Against Decapentaplegic Homolog 5; SMAD, Mothers Against DPP Homolog 5; SMA- And MAD-Related Protein 5; Mothers Against DPP Homolog 5; MAD Homolog 5; SMAD 5; HSmad5; Smad5; Dwfc
Immunogen	A synthesized peptide derived from human Smad5

KD-Validated Anti-SMAD5 Rabbit Monoclonal Antibody - Additional Information

Gene ID 4090

Other Names

Mothers against decapentaplegic homolog 5, MAD homolog 5, Mothers against DPP homolog 5, JV5-1, SMAD family member 5, SMAD 5, Smad5, hSmad5, SMAD5, MADH5

KD-Validated Anti-SMAD5 Rabbit Monoclonal Antibody - Protein Information**Name** SMAD5**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 (BMPRIIs) 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

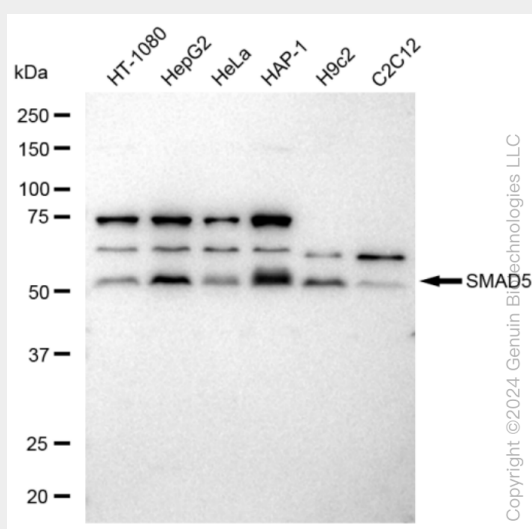
Ubiquitous.

KD-Validated Anti-SMAD5 Rabbit Monoclonal Antibody - Protocols

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

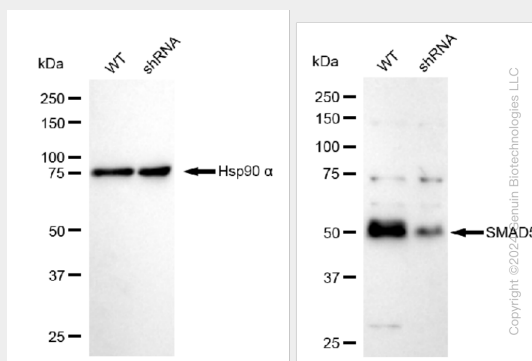
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

KD-Validated Anti-SMAD5 Rabbit Monoclonal Antibody - Images

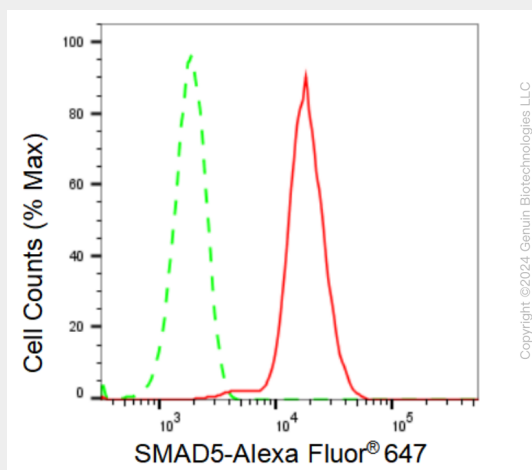


Western blotting analysis using anti-SMAD5 antibody (Cat#AGI1284). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-SMAD5 antibody (Cat#AGI1284, 1:5,000) and HRP-conjugated goat anti-rabbit secondary

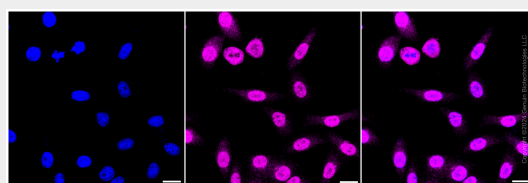
antibody respectively.



Western blotting analysis using anti-SMAD5 antibody (Cat#AGI1284). SMAD5 expression in wild type (WT) and SMAD5 shRNA knockdown (KD) HeLa cells with 30 µg of total cell lysates. Hsp90α serves as a loading control. The blot was incubated with anti-SMAD5 antibody (Cat#AGI1284, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Flow cytometric analysis of SMAD5 expression in HepG2 cells using SMAD5 antibody (Cat#AGI1284, 1:2,000). Green, isotype control; red, SMAD5.



Immunocytochemical staining of HepG2 cells with SMAD5 antibody (Cat#AGI1284, 1:1,000). Nuclei were stained blue with DAPI; SMAD5 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 µm.