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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 (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

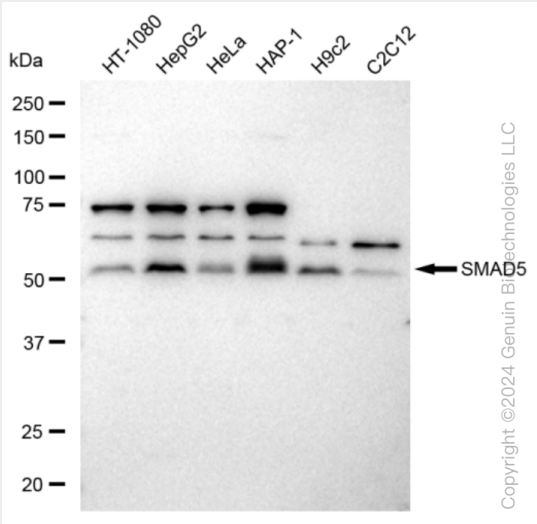
Tissue Location
Ubiquitous.

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 Cytomety
- 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

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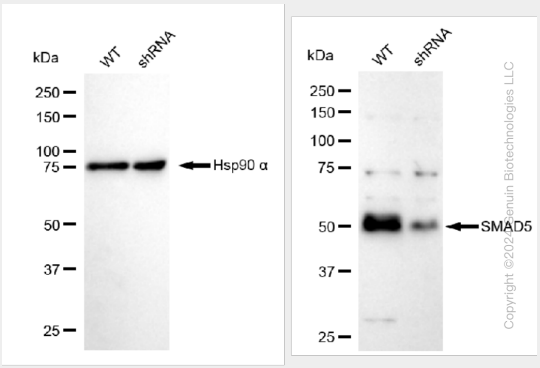
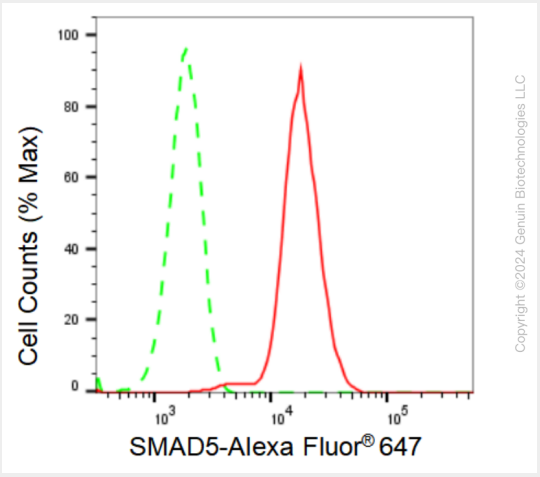
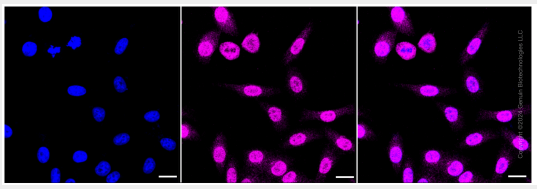
antibody respectively.



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. Hsp90 α 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.