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KD-Validated Anti-Smad4 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI2312

Specification

KD-Validated Anti-Smad4 Rabbit Monoclonal Antibody - Product Information

Application	**WB, FC, ICC**
Primary Accession	Q13485
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 60 kDa , observed, 65 kDa KDa**
Gene Name	**SMAD4**
Aliases	**DPC4; MADH4; Mothers Against Decapentaplegic Homolog 4; Deletion Target In Pancreatic Carcinoma 4; MAD Homolog 4; MAD, Mothers Against Decapentaplegic Homolog 4 (Drosophila); Mothers Against Decapentaplegic, Drosophila, Homolog Of, 4; SMAD, Mothers Against DPP Homolog 4 (Drosophila); Deleted In Pancreatic Carcinoma Locus 4; SMAD, Mothers Against DPP Homolog 4; Mothers Against DPP Homolog 4; SMAD 4; HSMAD4; MYHRS; Smad4; JIP**
Immunogen	**A synthesized peptide derived from human Smad4**

KD-Validated Anti-Smad4 Rabbit Monoclonal Antibody - Additional Information

Gene ID	**4089**

Other Names
Mothers against decapentaplegic homolog 4, MAD homolog 4, Mothers against DPP homolog 4, Deletion target in pancreatic carcinoma 4, SMAD family member 4, SMAD 4, Smad4, hSMAD4, SMAD4, DPC4, MADH4

KD-Validated Anti-Smad4 Rabbit Monoclonal Antibody - Protein Information

Name SMAD4

Synonyms DPC4, MADH4

Function
In muscle physiology, plays a central role in the balance between atrophy and hypertrophy. When recruited by MSTN, promotes atrophy response via phosphorylated SMAD2/4. MSTN decrease causes SMAD4 release and subsequent recruitment by the BMP pathway to promote hypertrophy via phosphorylated SMAD1/5/8. Acts synergistically with SMAD1 and YY1 in bone morphogenetic protein (BMP)-mediated cardiac- specific gene expression. Binds to SMAD binding elements (SBEs)

(5'- GTCT/AGAC-3') within BMP response element (BMPRE) of cardiac activating regions (By similarity). Common SMAD (co-SMAD) is the coactivator and mediator of signal transduction by TGF-beta (transforming growth factor). Component of the heterotrimeric SMAD2/SMAD3-SMAD4 complex that forms in the nucleus and is required for the TGF-mediated signaling (PubMed:25514493). Promotes binding of the SMAD2/SMAD4/FAST-1 complex to DNA and provides an activation function required for SMAD1 or SMAD2 to stimulate transcription. Component of the multimeric SMAD3/SMAD4/JUN/FOS complex which forms at the AP1 promoter site; required for synergistic transcriptional activity in response to TGF- beta. May act as a tumor suppressor. Positively regulates PDPK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator.

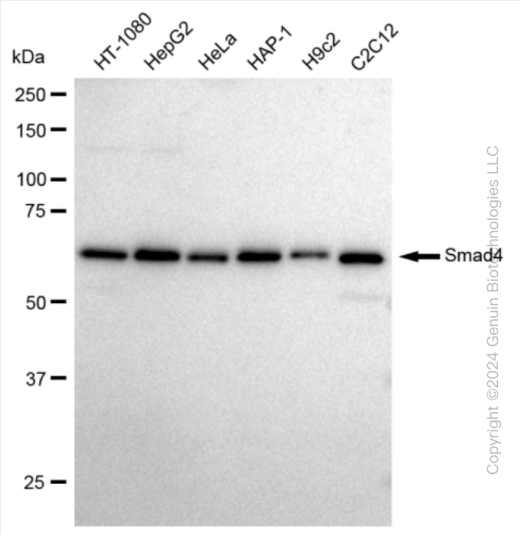
Cellular Location
Cytoplasm. Nucleus Note=Cytoplasmic in the absence of ligand. Migrates to the nucleus when complexed with R-SMAD (PubMed:15799969). PDPK1 prevents its nuclear translocation in response to TGF-beta (PubMed:17327236)

KD-Validated Anti-Smad4 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-Smad4 Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-Smad4 antibody (Cat#AGI2312). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-Smad4 antibody (Cat#AGI2312, 1:5,000) and HRP-conjugated goat anti rabbit secondary antibody respectively.

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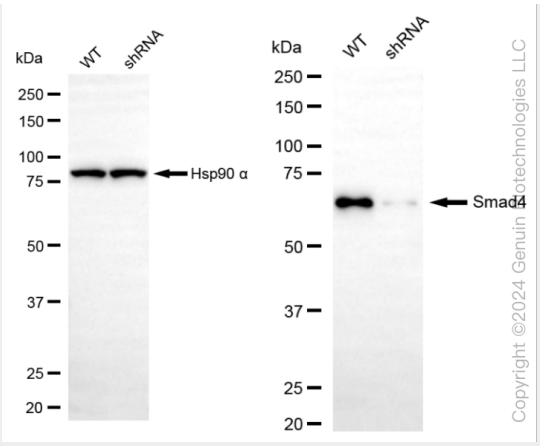
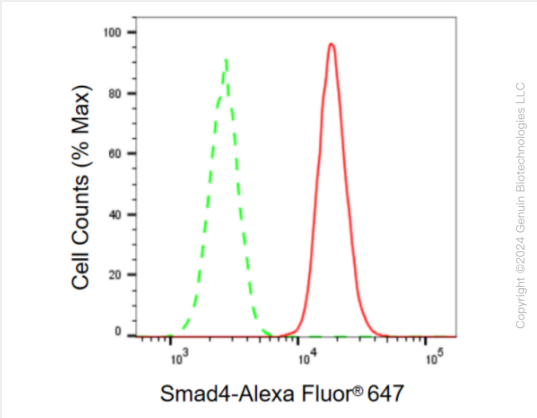
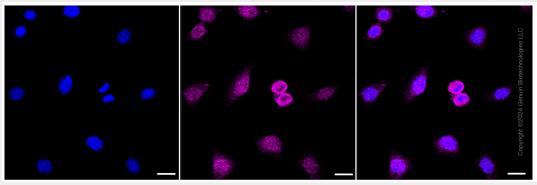


Western blotting analysis using anti-Smad4 antibody (Cat#AGI2312). Smad4 expression in wild type (WT) and Smad4 shRNA knockdown (KD) HT-1080 cells with 30 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-Smad4 antibody (Cat#AGI2312,1:5,000) and HRP-conjugated goat anti rabbit secondary antibody respectively.



Flow cytometric analysis of Smad4 expression in C2C12 cells using Smad4 antibody (Cat#AGI2312,1:2,000). Green, isotype control; red, Smad4.



Immunocytochemical staining of C2C12 cells with Smad4 antibody (Cat#AGI2312, 1:1,000). Nuclei were stained blue with DAPI; Smad4 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.