

# KD-Validated Anti-Smad4 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody

Catalog # AGI2312

## Product Information

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Application</b>       | WB, FC, ICC                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Primary Accession</b> | <a href="#">Q13485</a>                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Reactivity</b>        | Rat, Human, Mouse                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Clonality</b>         | Monoclonal                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Isotype</b>           | Rabbit IgG                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Clone Names</b>       | 23GB975                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Calculated MW</b>     | 60439                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Gene Name</b>         | SMAD4                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Aliases</b>           | 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 |
| <b>Immunogen</b>         | A synthesized peptide derived from human Smad4                                                                                                                                                                                                                                                                                                                                                                                              |

## Additional Information

|                    |                                                                                                                                                                                                     |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene ID</b>     | 4089                                                                                                                                                                                                |
| <b>Other Names</b> | 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 |

## Protein Information

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Name</b>     | SMAD4 ( <a href="#">HGNC:6770</a> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Synonyms</b> | DPC4, MADH4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Function</b> | 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).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.