

Anti-Smad2 Antibody

Catalog # ABO11202

Product Information

Application	WB, IHC-P, ICC
Primary Accession	Q15796
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Mothers against decapentaplegic homolog 2(SMAD2) detection. Tested with WB, IHC-P, ICC in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	4087
Other Names	Mothers against decapentaplegic homolog 2, MAD homolog 2, Mothers against DPP homolog 2, JV18-1, Mad-related protein 2, hMAD-2, SMAD family member 2, SMAD 2, Smad2, hSMAD2, SMAD2, MADH2, MADR2
Calculated MW	52306
Application Details	Immunocytochemistry , 0.5-1 μ g/ml, Human, Mouse, Rat Immunohistochemistry(Paraffin-embedded Section), 0.5-1 μ g/ml, Human, Mouse, Rat, By Heat Western blot, 0.1-0.5 μ g/ml, Human, Rat, Mouse
Subcellular Localization	Cytoplasm. Nucleus. Cytoplasmic and nuclear in the absence of TGF-beta. On TGF-beta stimulation, migrates to the nucleus when complexed with SMAD4. On dephosphorylation by phosphatase PPM1A, released from the SMAD2/SMAD4 complex, and exported out of the nucleus by interaction with RANBP1.
Tissue Specificity	Expressed at high levels in skeletal muscle, endothelial cells, heart and placenta. .
Source	Eukaryota
Protein Name	Mothers against decapentaplegic homolog 2
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human

Smad2(94-112aa DQWDTTGLYSFSEQTRSLD), identical to the related rat and mouse sequences.

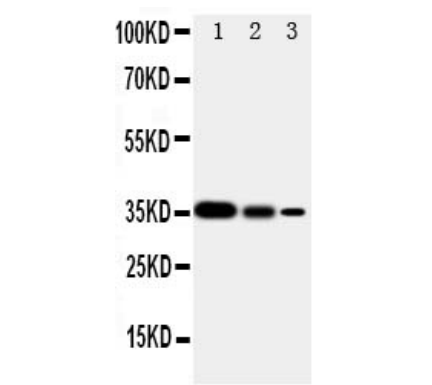
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20 °C for one year. After reconstitution, at 4 °C for one month. It can also be aliquotted and stored frozen at -20 °C for a longer time. Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the dwarfin/SMAD family.

Protein Information

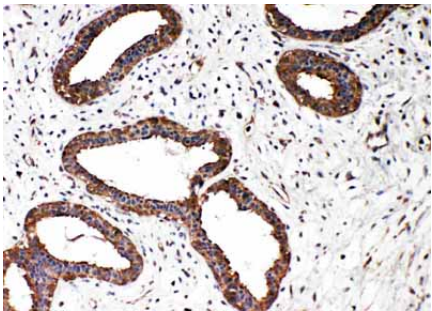
Name	SMAD2 (HGNC:6768)
Synonyms	MADH2, MADR2
Function	Receptor-regulated SMAD (R-SMAD) that is an intracellular signal transducer and transcriptional modulator activated by TGF-beta (transforming growth factor) and activin type 1 receptor kinases. Binds the TRE element in the promoter region of many genes that are regulated by TGF-beta and, on formation of the SMAD2/SMAD4 complex, activates transcription. Promotes TGF-beta-mediated transcription of odontoblastic differentiation genes in dental papilla cells (By similarity). Positively regulates PDPK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator. May act as a tumor suppressor in colorectal carcinoma (PubMed: 8752209).
Cellular Location	Cytoplasm. Nucleus Note=Cytoplasmic and nuclear in the absence of TGF-beta. On TGF-beta stimulation, migrates to the nucleus when complexed with SMAD4 or with IPO7 (PubMed:21145499, PubMed:9865696). On dephosphorylation by phosphatase PPM1A, released from the SMAD2/SMAD4 complex, and exported out of the nucleus by interaction with RANBP1 (PubMed:16751101, PubMed:19289081). Localized mainly to the nucleus in the early stages of embryo development with expression becoming evident in the cytoplasm at the blastocyst and epiblast stages (By similarity) {ECO:0000250 UniProtKB:Q62432, ECO:0000269 PubMed:16751101, ECO:0000269 PubMed:19289081, ECO:0000269 PubMed:21145499, ECO:0000269 PubMed:9865696}
Tissue Location	Expressed at high levels in skeletal muscle, endothelial cells, heart and placenta.

Background

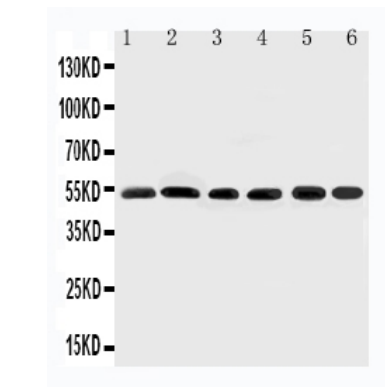
Smad2 (Mothers against decapentaplegic homolog 2), also known as MADR2, MADH2, SMAD family member 2 or SMAD2, is a protein that in humans is encoded by the SMAD2 gene. MAD homolog 2 belongs to the SMAD, a family of proteins similar to the gene products of the Drosophila gene 'mothers against decapentaplegic' (Mad) and the C. elegans gene Sma. Eppert et al. (1996) mapped the MADR2 gene close to DPC4 at 18q21, a region which is frequently deleted in colorectal cancers. Riggins et al. (1996) mapped the human MADH2 gene to 18q21. Nakao et al. (1997) refined the localization of the SMAD2 gene to 18q21.1, approximately 3 Mb proximal to DPC4, by fluorescence in situ hybridization. SMAD2 mediates the signal of the transforming growth factor (TGF)-beta, and thus regulates multiple cellular processes, such as cell proliferation, apoptosis, and differentiation. This protein is recruited to the TGF-beta receptors through its interaction with the SMAD anchor for receptor activation (SARA) protein. In response to TGF-beta signal, this protein is phosphorylated by the TGF-beta receptors.



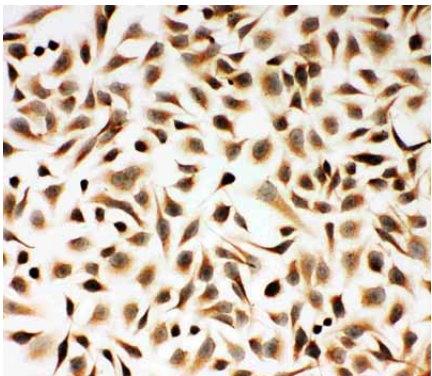
Anti-Smad2 antibody, ABO11202, Western blotting
Recombinant Protein Detection Source: E.coli derived -recombinant human SHC1, 35.0KD(162aa tag+D424-P578)
Lane 1: Recombinant Human SHC1 Proteins 10ng
Lane 2: Recombinant Human SHC1 Proteins 5ng
Lane 3: Recombinant Human SHC1 Proteins 2.5ng



Anti-Smad2 antibody, ABO11202, IHC(P)
IHC(P): Human Mammary Cancer Tissue



Anti-Smad2 antibody, ABO11202, Western blotting
Lane 1: Rat Brain Tissue Lysate
Lane 2: HELA Cell Lysate
Lane 3: SMMC Cell Lysate
Lane 4: JURKAT Cell Lysate
Lane 5: U87 Cell Lysate
Lane 6: MCF-7 Cell Lysate



Anti-Smad2 antibody, ABO11202, ICC
ICC: HELA Cell

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