

Rabbit Phospho-SMAD2 (S118) Polyclonal Antibody | anti-SMAD2 antibody

Phospho-SMAD2 (S118) Antibody

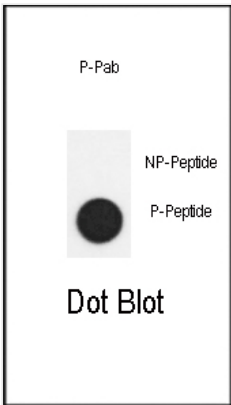
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA288611	Rabbit	Human (Predicted Reactivity: Drosophila, Bovine, Zebrafish, Mouse, Rat, Chicken, Pig)	ELISA, Dot Blot, Immunofluorescence

PRODUCT SYNONYMS

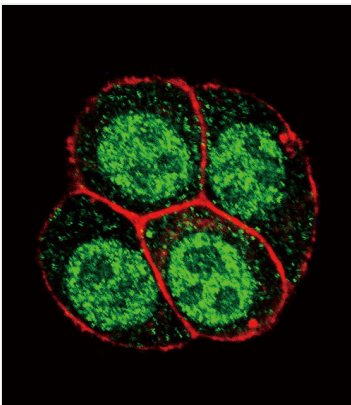
Phospho-SMAD2 (S118); Polyclonal Antibody; Phospho-SMAD2 (S118) Antibody; Mothers against decapentaplegic homolog 2; MAD homolog 2; Mothers against DPP homolog 2; JV18-1; Mad-related protein 2; hMAD-2; SMAD family member 2; SMAD 2; Smad2; hSMAD2; SMAD2; MADH2; MADR2; anti-SMAD2 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human (Predicted Reactivity: Drosophila, Bovine, Zebrafish, Mouse, Rat, Chicken, Pig)
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	This SMAD2 Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding S118 of human SMAD2.
Purity/Purification	This antibody is purified through a protein A column, followed by peptide affinity purification.
Form/Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide.
Sequence Length	467
Applicable Applications for anti-SMAD2 antibody	ELISA, DB (Dot Blot), IF (Immunofluorescence)
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 TGFB1-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
Preparation and Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.



DB (Dot Blot)
Dot blot analysis of anti-Phospho-SMAD2-S118 Antibody on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody working concentrations are 0.5ug per ml.



IF (Immunofluorescence)
Confocal immunofluorescent analysis of Phospho-SMAD2-S118 Antibody with Hela cell followed by Alexa Fluor 488-conjugated goat anti-rabbit IgG (green). Actin filaments have been labeled with Alexa Fluor 555 phalloidin (red).

ADDITIONAL INFORMATION

Related Product Information for anti-SMAD2 antibody	The protein belongs to the SMAD, a family of proteins similar to the proteins of the Drosophila gene 'mothers against decapentaplegic' (Mad) and the C. elegans gene Sma. SMAD proteins are signal transducers and transcriptional modulators that mediate multiple signaling pathways. This protein 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. The phosphorylation induces the dissociation of this protein with SARA and the association with the family member SMAD4. The association with SMAD4 is important for the translocation of this protein into the nucleus, where it binds to target promoters and forms a transcription repressor complex with other cofactors. This protein can also be phosphorylated by activin type 1 receptor kinase, and mediates the signal from the activin.
Product Categories/Family for anti-SMAD2 antibody	Cancer; Developmental Biology; Signal Transduction; Phospho Antibodies
References	Funaba,M., J. Biol. Chem. 277 (44), 41361-41368 (2002) Wicks,S.J., Mol. Cell. Biol. 20 (21), 8103-8111 (2000)

NCBI AND UNIPROT INFORMATION

NCBI GI #	51173730
NCBI GeneID	4087
NCBI Accession #	NP_001003652.1; NP_005892.1
NCBI GenBank Nucleotide #	NM_001003652.3
UniProt Accession #	Q15796
Molecular Weight	52306
NCBI Official Full Name	mothers against decapentaplegic homolog 2 isoform 1
NCBI Official Synonym Full Names	SMAD family member 2
NCBI Official Symbol	SMAD2
NCBI Official Synonym Symbols	JV18; MADH2; MADR2; JV18-1; hMAD-2; hSMAD2
NCBI Protein Information	mothers against decapentaplegic homolog 2
UniProt Protein Name	Mothers against decapentaplegic homolog 2

UniProt Gene Name	SMAD2
UniProt Synonym Gene Names	MADH2; MADR2; MAD homolog 2; Mothers against DPP homolog 2; hMAD-2; SMAD 2; Smad2; hSMAD2
UniProt Entry Name	SMAD2_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://www.aaabiotech.com/polyclonal/phospho-smad2-s118-antibody-dot-blot-immunofluorescence-elisa/288611>