SMAD2 Antibody – Mouse Monoclonal

PRODUCT OVERVIEW

Product Name	SMAD2, Monoclonal Antibody
Full Product Name	SMAD2 (SMAD Family Member 2, JV18, JV18-1, MADH2, MADR2, MGC22139, MGC34440, hMAD-2, hSMAD2) (MaxLight 405)
Product Gene Name	anti-SMAD2 antibody
Product Synonym Names	SMAD Family Member 2; JV18; JV18-1; MADH2; MADR2; MGC22139; MGC34440; hMAD-2; hSMAD2
Clonality	Monoclonal
Isotype	IgG2b,k
Clone Number	4G2
Host	Mouse
Form/Format	Supplied as a liquid in PBS, pH 7.2. No preservative added. Labeled with MaxLight405.
Purity/Purification	Purified
Specificity	Recognizes SMAD2.
Preparation and Storage	Store product at 4 degree C in the dark. DO NOT FREEZE! Stable at 4 degree C for 12 months after receipt as an undiluted liquid. Dilute required amo prior to immediate use. Further dilutions can be made in assay buffer. Caution: MaxLight405 conjugates are sensitive to light. For maximum recovery o product, centrifuge the original vial prior to removing the cap.
Molecular Weight	54.4 kDa (487aa)
OMIM	601366
3D Structure	ModBase 3D Structure for Q15796
Immunogen	SMAD2 (NP_005892, 16aa-119aa) full-length recombinant protein with GST tag. MW of the GST tag alone is 26kD.
Immunogen Sequence	LGWKKSAGGSGGAGGGEQNGQEEKWCEKAVKSLVKKLKKTGRLDELEKAITTQNCNTKCVTIPSTCSEIWGLSTPNTIDQWDTTGLYSFSEQTRSLDGR
Conjugate	MaxLight405
Product Categories/Family for anti-SMAD2 antibody	Antibodies; Smad Proteins
Applications Tested/Suitable for anti-SMAD2 antibody	FLISA, Western Blot (WB)
Application Notes for anti-SMAD2 antibody	Applications are based on unconjugated antibody.

Related Product Information for anti-SMAD2 antibody	The protein encoded by this gene 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. SMAD proteins are signal transducers and transcriptional modulators that mediate multiple sign 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 recepto 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 translocati this protein into the nucleus, where it binds to target promoters and forms a transcription repressor complex with other cofactors. This protein can also b phosphorylated by activin type 1 receptor kinase, and mediates the signal from the activin. Alternatively spliced transcript variants encoding the same p have been observed. [provided by RefSeq]
Other Notes	Small volumes of anti-SMAD2 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If neces briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and add dry ice fee may apply.
Searchable Terms for SMAD2 purchase	MBS6197894 is an antibody targeting SMAD2. Also known as SMAD2 (SMAD Family Member 2, JV18, JV18-1, MADH2, MADR2, MGC22139, MGC34 hMAD-2, hSMAD2) (MaxLight 405). Host: Mouse.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for SMAD2. It may not necessarily be applicable to this product.

NCBI GI #	5174511
NCBI GeneID	4087
NCBI Accession #	NP_005892
UniProt Primary Accession #	Q15796
UniProt Related Accession #	Q15796
GenBank Nucleotide #	NM_005901.5
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
UniProt Protein Name	Mothers against decapentaplegic homolog 2
UniProt Synonym Protein Names	JV18-1; Mad-related protein 2; hMAD-2; SMAD family member 2
Protein Family	Mothers against decapentaplegic
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
NCBI Protein Information	mothers against decapentaplegic homolog 2
NCBI Summary for SMAD2	The protein encoded by this gene 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. 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. Alternatively spliced transcript variants have been observed for this gene. [provided by RefSeq, May 2012]

UniProt Comments for SMAD2	SMAD2: ubiquitously expressed transcription factor phosphorylated and activated by TGF-beta receptor-type kinases. Participates in a wide range of critical processes including morphogenesis, cell-fate determination, proliferation, differentiation and apoptosis. Phosphorylated Smads dimerize with collaborating Smad4 and are translocated into the nucleus, where the transcription of target genes is stimulated. Two alternatively spliced isoforms have been described. Protein type: DNA-binding; Transcription factor Chromosomal Location of Human Ortholog: 18q21.1 Cellular Component: nucleoplasm; transcription factor complex; cytoplasm; nuclear chromatin; nucleus; cytosol Molecular Function: transcription activator binding; metal ion binding; transcription factor binding; transforming growth factor beta receptor, pathway-specific cytoplasmic mediator activity; phosphatase binding; protein binding; DNA binding; ubiquitin protein ligase binding; double-stranded DNA binding; chromatin binding; SMAD binding; transcription factor activity; transforming growth factor beta receptor binding Biological Process: developmental growth; somatic stem cell maintenance; positive regulation of transcription, DNA-dependent; activin receptor signaling pathway; paraxial mesoderm morphogenesis; gastrulation; primary microRNA processing; negative regulation of transcription from RNA polymerase II promoter; palate development; post-embryonic development; anterior/posterior pattern formation; negative regulation of cell proliferation; regulation of transforming growth factor beta receptor signaling pathway; ureteric bud development; transforming growth factor beta receptor signaling pathway; pancreas development; embryonic foregut morphogenesis; response to glucose stimulus; positive regulation of BMP signaling pathway; pericardium development; transcription initiation from RNA polymerase II promoter; cell fate commitment; regulation of binding; transcription, DNA-dependent; in utero embryonic development; common-partner SMAD protein phosphorylation; embryonic cranial skeleton morphogenesis; SMAD protein complex assembly; organ growth; zygotic determination of dorsal/ventral axis; mesoderm formation; endoderm formation; insulin secretion; gene expression; positive regulation of transcription from RNA polymerase II promoter; negative regulation of transcription, DNA-dependent; negative regulation of transforming growth factor beta receptor signaling pathway; lung development
Research Articles on SMAD2	**1.** a novel heterozygous missense mutation (c.833C>T, p.A278V) in the SMAD2 gene in a family with early onset aortic aneurysms
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