

Mouse anti-Human SMAD2 Monoclonal Antibody | anti-SMAD2 antibody

Anti-SMAD2 Antibody (monoclonal, 3C4)

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA125898	Mouse	Human	Flow Cytometry, Functional Assay, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

SMAD2; Monoclonal Antibody; Anti-SMAD2 Antibody (monoclonal; 3C4); 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; hSMAD2; Smad2; MADH2; MADR2; anti-SMAD2 antibody

PRODUCT SPECIFICATIONS

Host	Mouse
Reactivity	Human
Clonality	Monoclonal
Isotype	Mouse IgG1
Clone Number	3C4
Specificity	Mouse IgG monoclonal antibody for SMAD2 detection.
Purity/Purification	Immunogen affinity purified.
Form/Format	Lyophilized. Each vial contains 4mg Trehalose, 0.9mg NaCl and 0.2mg Na2HPO4.
Applicable Applications for anti-SMAD2 antibody	FCM/FACS (Flow Cytometry), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	E Coli-derived human SMAD2 recombinant protein (Position: E83-Q264).
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.
Recommended Detection Systems	Recommended Detection Systems
Preparation and Storage	Store at -20 degree C for one year. After reconstitution, at 4 degree C for one month. It can also be aliquotted and stored frozen at -20 degree C for a longer time. Avoid repeated freezing and thawing.

IMAGES



FCM/FACS (Flow Cytometry)

Figure 5. Flow Cytometry analysis of HL-60 cells using anti-SMAD2 antibody (AAA125898). Overlay histogram showing HL-60 cells stained with AAA125898 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with mouse anti- SMAD2 Antibody (AAA125898, 1µg/1x10⁶ cells) for 30 min at 20 degree C. DyLight[®]488 conjugated goat anti-mouse IgG (BA1126, 5-10µg/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20 degree C. Isotype control antibody (Green line) was mouse IgG (1µg/1x10⁶) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



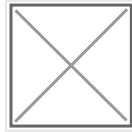
IHC (Immunohistochemistry)

Figure 4. IHC analysis of SMAD2 using anti-SMAD2 antibody (AAA125898). SMAD2 was detected in paraffin-embedded section of human pancreatic cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8. 0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2µg/ml mouse anti-SMAD2 Antibody (AAA125898) overnight at 4 degree C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.



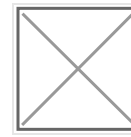
IHC (Immunohistochemisry)

Figure 3. IHC analysis of SMAD2 using anti-SMAD2 antibody (AAA125898).SMAD2 was detected in paraffin-embedded section of human low-differentiated adenocarcinoma of the intestine tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8. 0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2μg/ml mouse anti-SMAD2 Antibody (AAA125898) overnight at 4 degree C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.



WB (Western Blot)

Figure 1. Western blot analysis of SMAD2 using anti-SMAD2 antibody (AAA125898).Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30ug of sample under reducing conditions.Lane 1: human HL-60 whole cell lysatesLane 2: human Hela whole cell lysates.After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1. 5 hour at RT. The membrane was incubated with mouse anti- SMAD2 antigen affinity purified monoclonal antibody (Catalog # AAA125898) at 0. 5 μg/mL overnight at 4 degree C, then washed with TBS-0. 1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1. 5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for SMAD2 at approximately 55KD. The expected band size for SMAD2 is at 55KD.



IHC (Immunohiostchemistry)

Figure 2. IHC analysis of SMAD2 using anti-SMAD2 antibody (AAA125898).SMAD2 was detected in paraffin-embedded section of human gallbladder adenocarcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8. 0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2μg/ml mouse anti-SMAD2 Antibody (AAA125898) overnight at 4 degree C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.

ADDITIONAL INFORMATION

Related Product Information for anti-SMAD2 antibody	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. mapped the MADR2 gene close to DPC4 at 18q21, a region which is frequently deleted in colorectal cancers. Riggins et al. mapped the human MADH2 gene to 18q21. Nakao et al. 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.
References	1. Eppert, K., Scherer, S. W., Ozcelik, H., Pirone, R., Hoodless, P., Kim, H., Tsui, L. -C., Bapat, B., Gallinger, S., Andrulis, I. L., Thomsen, G. H., Wrana, J. L., Attisano, L. MADR2 maps to 18q21 and encodes a TGF-beta-regulated MAD-related protein that is functionally mutated in colorectal carcinoma. Cell 86: 543-552, 1996. 2. Nakao, A., Roijer, E., Imamura, T., Souchelnytskyi, S., Stenman, G., Heldin, C. -H., ten Dijke, P. Identification of Smad2, a human Mad-related protein in the transforming growth factor-beta signaling pathway. J. Biol. Chem. 272: 2896-2900, 1997. 3. Riggins, G. J., Thiagalingam, S., Rozenblum, E., Weinstein, C. L., Kern, S. E., Hamilton, S. R., Willson, J. K. V., Markowitz, S. D., Kinzler, K. W., Vogelstein, B. Mad-related genes in the human. Nature Genet. 13: 347-349, 1996.

NCBI AND UNIPROT INFORMATION

NCBI GI #	51173730
NCBI GeneID	4087
NCBI Accession #	NP_001003652.1
NCBI GenBank Nucleotide #	NM_001003652.3

UniProt Accession #	Q15796
Molecular Weight	52,306 Da
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; MAD homolog 2; mother against DPP homolog 2; Sma- and Mad-related protein 2; SMAD, mothers against DPP 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://stage.aaabiotech.com/monoclonal/smad2-antibody-clone-3c4-flow-cytometry-immunohistochemistry-western-blot-elisa/125898>