

## **Anti-Smad2 Rabbit Monoclonal Antibody**

**Catalog # ABO13585** 

## **Specification**

## **Anti-Smad2 Rabbit Monoclonal Antibody - Product Information**

Application WB, IF, ICC, FC

Primary Accession

Host
Rabbit
Isotype
Rabbit IgG

Reactivity Rat, Human, Mouse

Clonality Monoclonal Format Liquid

**Description** 

Anti-Smad2 Rabbit Monoclonal Antibody . Tested in WB, ICC/IF, Flow Cytometry applications. This antibody reacts with Human, Mouse, Rat.

# **Anti-Smad2 Rabbit Monoclonal Antibody - 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 MW KDa

### **Application Details**

WB 1:500-1:2000<br>ICC/IF 1:50-1:200<br>FC 1:50</br>

### **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..

## **Contents**

Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

## **Immunogen**

A synthesized peptide derived from human Smad2

#### **Purification**

Affinity-chromatography



Storage

Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

# **Anti-Smad2 Rabbit Monoclonal Antibody - Protein Information**

Name SMAD2

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 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:<a href="http://www.uniprot.org/citations/8752209" target="\_blank">8752209</a>).

#### **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.

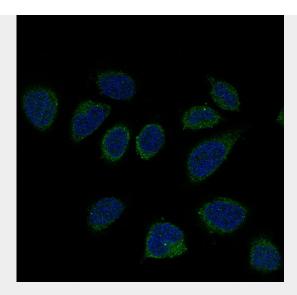
## **Anti-Smad2 Rabbit Monoclonal Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- <u>Immunohistochemistry</u>
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

# Anti-Smad2 Rabbit Monoclonal Antibody - Images





Immunofluorescent analysis of Hela cells, using Smad2 Antibody.

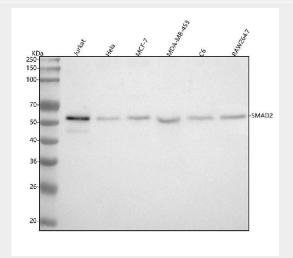


Figure 1. Western blot analysis of SMAD2 using anti-SMAD2 antibody (M00090-1). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.

Lane 1: human Jurkat whole cell lysates,

Lane 2: human Hela whole cell lysates,

Lane 3: human MCF-7 whole cell lysates,

Lane 4: human MDA-MB-453 whole cell lysates,

Lane 5: rat C6 whole cell lysates,

Lane 6: mouse RAW264.7 whole cell lysates.

After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-SMAD2 antigen affinity purified monoclonal antibody (Catalog # M00090-1) at 1:500 overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:500 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for SMAD2 at approximately 52 kDa. The expected band size for SMAD2 is at 52 kDa.