

## ARG51796 anti-Smad 2 phospho (Thr220) antibody

Package: 100 µl, 50 µl  
Store at: -20°C

### Summary

Product Description	Rabbit Polyclonal antibody recognizes Smad 2 phospho (Thr220)
Tested Reactivity	Hu, Ms, Rat
Tested Application	WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	Smad 2
Species	Human
Immunogen	Peptide sequence around phosphorylation site of threonine 220 (P-E-T(p)-P-P) derived from Human Smad2.
Conjugation	Un-conjugated
Alternate Names	SMAD family member 2; MADR2; MADH2; Mothers against decapentaplegic homolog 2; JV18; Smad2; hMAD-2; Mad-related protein 2; hSMAD2; Mothers against DPP homolog 2; JV18-1; MAD homolog 2; SMAD 2

### Application Instructions

Application table	Application	Dilution
	WB	1:500 - 1:1000
Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.	

### Properties

Form	Liquid
Purification	Antibodies were produced by immunizing rabbits with KLH-conjugated synthetic phosphopeptide. Antibodies were purified by affinity-chromatography using epitope-specific phosphopeptide. In addition, non-phospho specific antibodies were removed by chromatography using non-phosphopeptide.
Buffer	PBS (without Mg <sup>2+</sup> and Ca <sup>2+</sup> , pH 7.4), 150mM NaCl, 0.02% Sodium azide and 50% Glycerol.
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol
Concentration	1 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

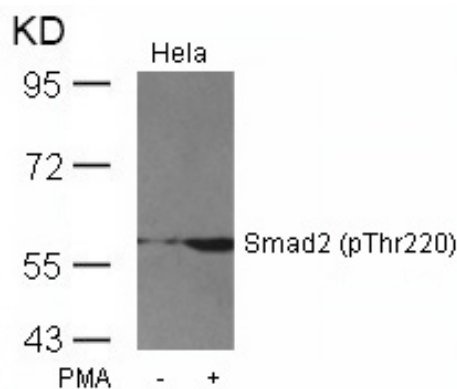
**Note**

For laboratory research only, not for drug, diagnostic or other use.

## Bioinformation

<b>Gene Symbol</b>	SMAD2
<b>Gene Full Name</b>	SMAD family member 2
<b>Background</b>	Transcriptional modulator activated by TGF-beta and activin type 1 receptor kinase. SMAD2 is a receptor-regulated SMAD (R-SMAD). May act as a tumor suppressor in colorectal carcinoma.
<b>Function</b>	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. May act as a tumor suppressor in colorectal carcinoma. Positively regulates PDPK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator. [UniProt]
<b>Research Area</b>	Cancer antibody; Developmental Biology antibody; Gene Regulation antibody; Signaling Transduction antibody
<b>Calculated Mw</b>	52 kDa
<b>PTM</b>	Phosphorylated on one or several of Thr-220, Ser-245, Ser-250, and Ser-255. In response to TGF-beta, phosphorylated on Ser-465/467 by TGF-beta and activin type 1 receptor kinases. TGF-beta-induced Ser-465/467 phosphorylation declines progressively in a KMT5A-dependent manner. Able to interact with SMURF2 when phosphorylated on Ser-465/467, recruiting other proteins, such as SNON, for degradation. In response to decorin, the naturally occurring inhibitor of TGF-beta signaling, phosphorylated on Ser-240 by CaMK2. Phosphorylated by MAPK3 upon EGF stimulation; which increases transcriptional activity and stability, and is blocked by calmodulin. Phosphorylated by PDPK1. In response to TGF-beta, ubiquitinated by NEDD4L; which promotes its degradation. Monoubiquitinated, leading to prevent DNA-binding (By similarity). Deubiquitination by USP15 alleviates inhibition and promotes activation of TGF-beta target genes (PubMed:21947082). Ubiquitinated by RNF111, leading to its degradation: only SMAD2 proteins that are 'in use' are targeted by RNF111, RNF111 playing a key role in activating SMAD2 and regulating its turnover (By similarity). Acetylated on Lys-19 by coactivators in response to TGF-beta signaling, which increases transcriptional activity. Isoform short: Acetylation increases DNA binding activity in vitro and enhances its association with target promoters in vivo. Acetylation in the nucleus by EP300 is enhanced by TGF-beta.

## Images



ARG51796 anti-Smad 2 phospho (Thr220) antibody WB image

Western blot: Extracts from HeLa cells untreated or treated with PMA stained with ARG51796 anti-Smad 2 phospho (Thr220) antibody.