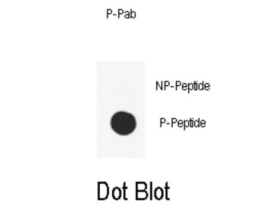
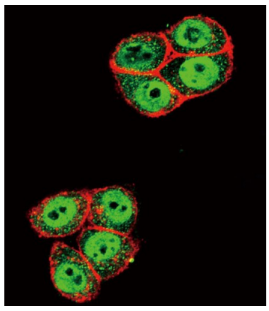
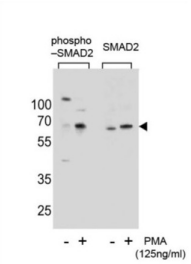
Mothers Against Decapentaplegic Homolog 2 Phospho-Thr220 (SMAD2 pT220) Antibody

Catalogue No.:abx032070



Dot Blot





SMAD2 is a 58 kDa member of a family of proteins involved in cell proliferation, differentiation and development. The Smad family is divided into three subclasses: receptor-regulated Smad's, activin/TGF?receptor-regulated (Smad2 and 3) or BMP receptor regulated (Smad1, 5, and 8) ; the common partner, (Smad4) that functions via its interaction to the various Smad's; and the inhibitory Smad's, (Smad6 and Smad7). Smad2 consists of two highly conserved domains, the N terminal Mad homology (MH1) and the C-terminal Mad homology 2 (MH2) domains. The MH1 domain binds DNA and regulates nuclear import and transcription while the MH2 domain conserved among all the Smad's regulates Smad2 oligomerization and binding to cytoplasmic adaptors and transcription factors. Activated Smad2 associates with Smad4 and translocates as a complex into the nucleus, allowing its binding to DNA and transcription factors. This translocation of Smad2 (as well as Smad3) into the nucleus is a central event in TGF beta signaling. Phosphorylation of threonine 8 in the calmodulin binding region of the MH1 domain by extracellular signal regulated kinase 1 (ERK 1) enhances Smad2 transcriptional activity, which is negatively regulated by calmodulin. The regulation of Smad2 phosphorylation on threonine 8 by ERK 1 and calmodulin is critical for Smad2 mediated signaling.

Target:	Mothers Against Decapentaplegic Homolog 2 Phospho-Thr220 (SMAD2 pT220)
Clonality:	Polyclonal

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Target Modification:	Thr220
Modification:	Phosphorylation
Reactivity:	Human
Tested Applications:	ELISA, WB, IF/ICC, DB
Host:	Rabbit
Recommended dilutions:	WB: 1/500, IF/ICC: 1/10 - 1/50, DB: 1/500. Optimal dilutions/concentrations should be determined by the end user.
Conjugation:	Unconjugated
Immunogen:	KLH-conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding T220 of human SMAD2.
Isotype:	IgG
Form:	Liquid
Purification:	Purified through a protein A column, followed by two-step phosphospecific peptide affinity purification.
Storage:	Aliquot and store at -20°C. Avoid repeated freeze/thaw cycles.
UniProt Primary AC:	Q15796 (UniProt, ExPASy)
NCBI Accession:	NP_001003652.1, NP_005892.1
KEGG:	hsa:4087
String:	9606.ENSP00000262160
Molecular Weight:	Calculated MW: 52.3 kDa
Buffer:	PBS containing 0.09% sodium azide.
Specificity:	Predicted to react with Mouse, Rat, Cow and Zebrafish SMAD2.
Note:	THIS PRODUCT IS FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC, THERAPEUTIC OR COSMETIC PROCEDURES. NOT FOR HUMAN OR ANIMAL CONSUMPTION.

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