

## Anti-Phospho-Smad2 (Thr220) Polyclonal Antibody 2

### Product Details

Ig Type:	IgG
Reactivity:	Human (predicted:Mouse,Rat,Chicken,Dog,Cow,Horse)
Molecular Weight:	Theoretical: 52 kDa.
Purification:	Protein A purified

### Applications

Verified Activity:	1. Tissue/cell: human placenta tissue; 4% Paraformaldehyde-fixed and paraffin-embedded; Antigen retrieval: citrate buffer (0.01 M, pH 6.0), Boiling bathing for 15 min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30 min; Blocking buffer (normal goat serum) at 37°C for 20 min; Incubation: Anti-Phospho-Smad2 (Thr220) Polyclonal Antibody, Unconjugated (TMAB-11298) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody and DAB staining
	2. Blank control: Hela. Primary Antibody (green line): Rabbit Anti-Phospho-Smad2 (Thr220) antibody (TMAB-11298) Dilution: 2 µg /10 <sup>6</sup> cells; Isotype Control Antibody (orange line): Rabbit IgG. Secondary Antibody: Goat anti-rabbit IgG-AF647 Dilution: 1 µg /test. Protocol The cells were fixed with 4% PFA (10 min at room temperature) and then permeabilized with 90% ice-cold methanol for 20 min at -20°C. The cells were then incubated in 5% BSA to block non-specific protein-protein interactions for 30 min at room temperature. Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.
Application:	IHC-P,IHC-Fr,IF,FCM
Recommended	IHC-P: 1:100-500; IHC-Fr: 1:100-500; IF: 1:100-500; FCM: 2µg/Test

### Properties

Stability & Storage:	Store at 2°C-8°C for 1 month. Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles.
Shipping:	Shipping with blue ice.

### Antigen Details

Immunogen:	KLH conjugated Synthesised phosphopeptide: human Smad2 around the phosphorylation site of Thr220
Antigen Species:	Human
Gene ID:	4087
Uniprot ID:	Q15796

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### Research Background

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]

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