

**Phospho-SMAD2 (Ser465/467) (138D4)
Rabbit mAb****Orders:** 877-616-CELL (2355)
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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, W-S	H M R Mi	Endogenous	60	Rabbit IgG	#Q15796	4087

Product Usage Information**Application**Western Blotting
Simple Western™**Dilution**1:1000
1:50 - 1:250**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Phospho-SMAD2 (Ser465/467) (138D4) Rabbit mAb detects endogenous levels of SMAD2 only when dually phosphorylated at serines 465 and 467, and may detect SMAD3 phosphorylated at the equivalent sites. This antibody does not cross-react with other SMAD-related proteins.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser465/467 of human SMAD2.

Background

Members of the SMAD family of signal transduction molecules are components of a critical intracellular pathway that transmit TGF-β signals from the cell surface into the nucleus. Three distinct classes of SMADs have been defined: the receptor-regulated SMADs (R-SMADs), which include SMAD1, 2, 3, 5, and 9; the common-mediator SMAD (co-SMAD), SMAD4; and the antagonistic or inhibitory SMADs (I-SMADs), SMAD6 and 7 (1-5). Activated type I receptors associate with specific R-SMADs and phosphorylate them on a conserved carboxy-terminal SSXS motif. The phosphorylated R-SMADs dissociate from the receptor and form a heteromeric complex with SMAD4, initiating translocation of the heteromeric SMAD complex to the nucleus. Once in the nucleus, SMADs recruit a variety of DNA binding proteins that function to regulate transcriptional activity (6-8).

Following stimulation by TGF-β, Smad2 and Smad3 become phosphorylated at their carboxy-termini (Ser465/467 on Smad2; Ser423/425 on Smad3) by the receptor kinase TGF-β R1 (9-11). Following phosphorylation, Smad2 and Smad3 form a heteromeric complex with the co-Smad family member Smad4. These complexes are translocated to the nucleus where they bind DNA and regulate gene transcription.

Background References

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Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key**W:** Western Blotting **W-S:** Simple Western™**Cross-Reactivity Key****H:** Human **M:** Mouse **R:** Rat **Mi:** Mink**Trademarks and Patents**

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