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Phospho-Smad2 (Ser465/467)/ Smad3 (Ser423/425) (D6G10) XP® Rabbit mAb
For Research Use Only. Not for Use in Diagnostic Procedures.

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|--------------------------------------|-------------------------|-----------------------------------|--------------------------------------|--|--------------------------------------|
| Applications: IF-IC, FC-FP | Reactivity: H | Sensitivity: Endogenous | Source/Isotype: Rabbit IgG | UniProt ID: #P84022, #Q15796 | Entrez-Gene Id: 4088, 4087 |
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Product Usage Information
Application

 Immunofluorescence (Immunocytochemistry)
Flow Cytometry (Fixed/Permeabilized)

Dilution

 1:200
1:400

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)/Smad3 (Ser423/425) (D6G10) XP® Rabbit mAb detects endogenous levels of phosphorylated Smad2 and Smad3. Some reactivity is observed with non-phosphorylated Smad2 and 3 by western blot analysis. This antibody does not cross-react with other Smad-related proteins.

Species predicted to react based on 100% sequence homology

Mouse, Rat, Monkey, Xenopus, Bovine

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser465/467 of human Smad2. This region is highly conserved with Smad3 at Ser423/425.

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 SXS 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 carboxyl termini (serines 465 and 467 on Smad2; serines 423 and 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).

Applications Key
IF-IC: Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key
H: Human

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