

# Smad2 (D43B4) XP® Rabbit mAb (Biotinylated)

✓ 100 µl  
(10 western blots)



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New 03/14

**For Research Use Only. Not For Use In Diagnostic Procedures.**

Applications W Endogenous	Species Cross-Reactivity* H, M, R, Mk	Molecular Wt. 60 kDa	Isotype Rabbit IgG
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**Description:** This Cell Signaling Technology antibody is conjugated to biotin under optimal conditions. The biotinylated antibody is expected to exhibit the same species cross-reactivity as the unconjugated Smad2 (D43B4) XP® Rabbit mAb #5339.

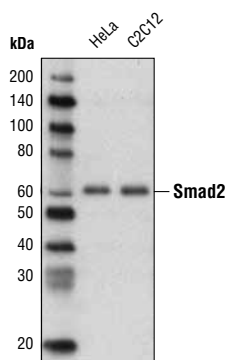
**Background:** Members of the Smad family of signal transduction molecules are components of a critical intracellular pathway that transmit TGF-β signals from the cell surface into the nucleus. Three distinct classes of Smads have been defined: the receptor-regulated Smads (R-Smads), which include Smad1, 2, 3, 5, and 8; 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-Smad dissociates from the receptor and forms a heteromeric complex with the co-Smad (Smad4), allowing translocation of the complex to the nucleus. Once in the nucleus, Smads can target a variety of DNA binding proteins to regulate transcriptional responses (6-8).

**Specificity/Sensitivity:** Smad2 (D43B4) XP® Rabbit mAb (Biotinylated) recognizes endogenous levels of total Smad2 protein. This antibody does not cross-react with Smad3 protein.

**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of mouse Smad2 protein.

#### Background References:

- (1) Heldin, C.H. et al. (1997) *Nature* 390, 465-71.
- (2) Attisano, L. and Wrana, J.L. (1998) *Curr Opin Cell Biol* 10, 188-94.
- (3) Derynck, R. et al. (1998) *Cell* 95, 737-40.
- (4) Massagué, J. (1998) *Annu Rev Biochem* 67, 753-91.
- (5) Whitman, M. (1998) *Genes Dev* 12, 2445-62.
- (6) Wu, G. et al. (2000) *Science* 287, 92-7.
- (7) Attisano, L. and Wrana, J.L. (2002) *Science* 296, 1646-7.
- (8) Moustakas, A. et al. (2001) *J Cell Sci* 114, 4359-69.



Western blot analysis of extracts from HeLa and C2C12 cells using Smad2 (D43B4) XP® Rabbit mAb (Biotinylated).

Entrez Gene ID # 4087  
UniProt ID # Q15796

**Storage:** Supplied in 136 mM NaCl, 2.6 mM KCl, 12 mM sodium phosphate (pH 7.4) dibasic, 2 mg/ml BSA, and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

**\*Species cross-reactivity is determined by western blot using the unconjugated antibody.**

**Biotinylated antibodies are designed to be detected using streptavidin or anti-biotin antibody conjugates.**

#### Recommended Antibody Dilutions:

Western blotting 1:1000

**For product specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).**

**Please visit [www.cellsignal.com/companion](http://www.cellsignal.com/companion) for a complete listing of recommended companion products.**

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

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**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide  
**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine  
Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.