

Smad4 Antibody

✓ 100 µl
(10 western blots)

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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, ChIP Endogenous	H, M, R, Mk	70 kDa	Rabbit**

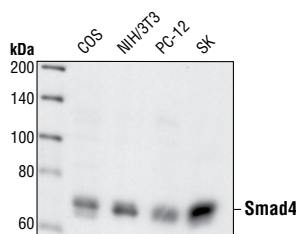
Background: Members of the Smad family of signal transduction molecules are components of a critical intracellular pathway that transmits TGF-β signals from the cell surface into the nucleus. Three distinct classes of Smads have been defined: the receptor-regulated Smads (R-Smads), which include Smad 1, 2, 3, 5, 8; the common-mediator Smad (co-Smad), Smad4, and the antagonistic or inhibitory Smads (I-Smads), Smad6 and 7 (1-5). Briefly, activated type I receptors associate with specific R-Smads and phosphorylate them on a conserved SSXS motif at the carboxy terminus of the proteins. The phosphorylated R-Smad dissociates from the receptor and forms a heteromeric complex with the co-Smad, Smad4, and together the complex moves to the nucleus. Once in the nucleus, Smads can target a variety of DNA binding proteins to regulate transcriptional responses (6-8).

Specificity/Sensitivity: Smad4 Antibody detects endogenous levels of total Smad4 protein.

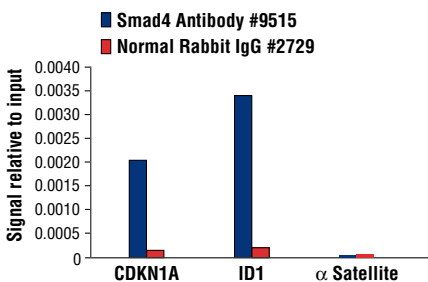
Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the residues surrounding Pro278 of human Smad4. Antibodies are purified by protein A and peptide affinity chromatography.

Background References:

- Heldin, C.H. et al. (1997) *Nature* 390, 465-471.
- Attisano, L. and Wrana, J.L. (1998) *Curr. Opin. Cell Biol.* 10, 188-194.
- Derynck, R. et al. (1998) *Cell* 95, 737-740.
- Massague, J. (1998) *Annu. Rev. Biochem.* 67, 753-791.
- Whitman, . (1998) *Genes Dev.* 12, 2445-2462.
- Wrana, J. (2000) *Science* 23, 1-9.
- Attisano, L. and Wrana, J. (2002) *Science* 296, 1646-1647.
- Moustakas, A. et al. (2001) *J. Cell Sci.* 114, 4359-4369.



Western blot analysis of extracts from COS, NIH3T3, PC12, and SK-N-MC cells using Smad4 Antibody.



Chromatin immunoprecipitations were performed with cross-linked chromatin from 4 x 10⁶ HaCaT cells treated with Human TGF-β3 #3706 (7ng/ml) for 1 h and either 20 µl of Smad4 Antibody or 2 µl of Normal Rabbit IgG #2729 using SimpleChIP™ Enzymatic Chromatin IP Kit (Magnetic Beads) #9003. The enriched DNA was quantified by Real-Time PCR using SimpleChIP™ Human CDKN1A Intron 1 Primers #4669, SimpleChIP™ Human ID1 Promoter Primers #5139, and SimpleChIP™ Human α-Satellite Repeat Primers #4486. The amount of immunoprecipitated DNA in each sample is represented as signal relative to the total amount of input chromatin, which is equivalent to one.

Entrez-Gene ID #4089
Swiss-Prot Acc. #Q13485

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

*Species cross-reactivity is determined by western blot.

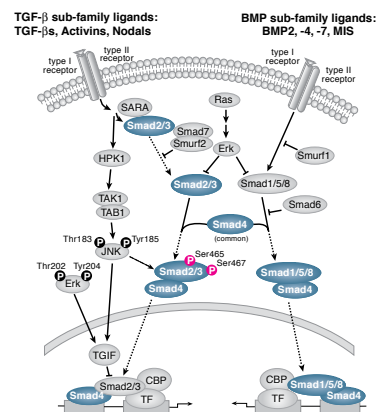
**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western Blotting	1:1000
Chromatin IP	1:25

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com 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.

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.