

# Smad1 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, IP, ChIP Endogenous	H, M, Mk	58–60 kDa	Rabbit**

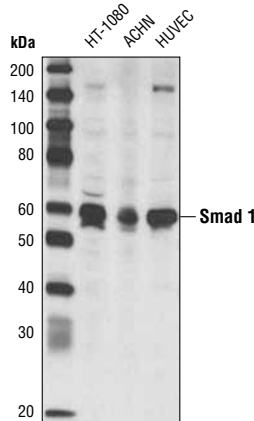
**Background:** Bone morphogenetic proteins (BMPs) constitute a large family of signaling molecules that regulate a wide range of critical processes including morphogenesis, cell-fate determination, proliferation, differentiation and apoptosis (1,2). BMP receptors are members of the TGF-β family of Ser/Thr kinase receptors. Ligand binding induces multimerization, autophosphorylation and activation of these receptors (3–5). Subsequently, they phosphorylate Smad1 at Ser463 and Ser465 in the carboxy-terminal motif SSXS, as well as Smad5 and Smad8 at their corresponding sites. These phosphorylated Smads dimerize with the collaborating Smad4 and translocate to the nucleus, where the transcription of target genes is stimulated (5).

**Specificity/Sensitivity:** Smad1 Antibody detects endogenous levels of total Smad1 protein. No cross reactivity was observed with other family members.

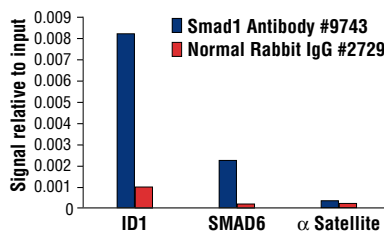
**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser190 of human Smad1. Antibodies were purified by protein A and peptide affinity chromatography.

**Background References:**

- Hogan, B.L. et al. (1996) *Genes Dev.* 10, 1580–1594.
- Hoodless, P.A. et al. (1996) *Cell* 85, 489–500.
- Klemm, J.D. et al. (1998) *Annu. Rev. Immunol.* 16, 569–592.
- Kretschmar, M. et al. (1997) *Genes Dev.* 11, 984–995.
- Whitman, M. (1998) *Genes Dev.* 12, 2445–2462.



Western blot analysis of extracts from various cell lines using Smad1 Antibody.



Chromatin immunoprecipitations were performed with cross-linked chromatin from  $4 \times 10^6$  MCF7 cells treated with Human BMP2 #4697 (50 ng/ml) for one hour and either 20 µl of Smad1 Antibody #9743 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 ID1 Promoter Primers #5139, human SMAD6 promoter primers, 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 #4086  
Swiss-Prot Acc. #Q15797

**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
Immunoprecipitation	1:100
Chromatin IP	1:25

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

Please visit [www.cellsignal.com](http://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.**