

#2468 Store at -20°C

# PTCH1 (C53A3) Rabbit mAb



✓ 100 µl  
(10 western blots)

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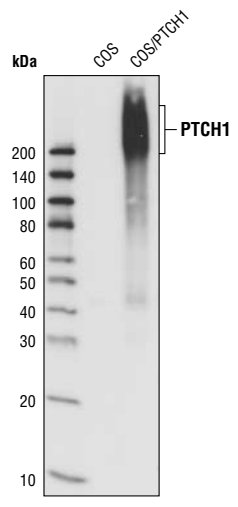
Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP Transfected	H	180-210 kDa	Rabbit IgG**

**Background:** Patched1 and 2 (PTCH1 and PTCH2) are twelve-pass transmembrane proteins that function as the receiving receptors for members of the Hedgehog family of proteins (1-4). In the absence of Hedgehog proteins, PTCH suppresses the otherwise constitutively active signaling receptor Smoothened (Smo) so that the Hedgehog signaling pathway is in the off state (5,6). Deactivating mutations that impair the ability of PTCH1 to suppress Smo are frequently found in patients with nevoid basal cell carcinoma syndrome (7,8). PTCH proteins have a sterol-sensing domain (SSD) also found in several proteins that function in cholesterol homeostasis, such as HMGCR (3-hydroxy-3-methylglutaryl coenzyme A-reductase) and SCAP (sterol regulatory element-binding protein-cleavage activating protein). However, the role of the SSD in Patched proteins is not clear (9,10).

PTCH1 itself is a target of Hedgehog signaling (11), with elevated PTCH1 expression as a surrogate marker for Hedgehog pathway activation (12-14).

**Specificity/Sensitivity:** PTCH1 (C53A3) Rabbit mAb detects transfected levels of PTCH1. This antibody can also detect endogenous levels of PTCH1 through immunoprecipitation and followed by Western blot analysis.

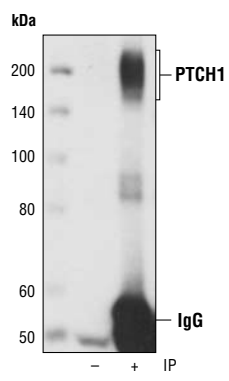
**Source/Purification:** Monoclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro1307 of human PTCH1.



Western blot analysis of total cell lysates from COS cells, untransfected or transiently transfected with a human PTCH1 expression construct, using PTCH1 (C53A3) Rabbit mAb.

**Background References:**

- (1) Stone, D.M. et al. (1996) *Nature* 384, 129-134.
- (2) Chen, Y. and Struhl, G. (1996) *Cell* 87, 553-563.
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- (4) Smyth, I. et al. (1999) *Hum. Mol. Genet.* 8, 291-297.
- (5) Ingham, P.W. and McMahon, A.P. (2001) *Genes Dev.* 15, 3059-3087.
- (6) McMahon, A.P. et al. (2003) *Curr. Top. Dev. Biol.* 53, 1-114.
- (7) Hahn, H. et al. (1996) *Cell* 85, 841-851.
- (8) Johnson, R.L. et al. (1996) *Science* 272, 1668-1671.
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- (10) Chang, T.Y. et al. (2006) *Annu. Rev. Cell Dev. Biol.* 22, 129-157.
- (11) Agren, M. et al. (2004) *Gene* 330, 101-114.
- (12) Watkins, D.N. et al. (2003) *Nature* 422, 313-317.
- (13) Berman, D.M. et al. (2003) *Nature* 425, 846-851.
- (14) Karhadkar, S.S. et al. (2004) *Nature* 431, 707-712.



Immunoprecipitation of endogenous PTCH1 from 293 cell lysates using PTCH1 (C53A3) Rabbit mAb. Western blot detection was performed using the same antibody.

Entrez-Gene ID #5727  
Swiss-Prot Acc. #Q13635

**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.

\*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	1:50

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.

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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.