

# Phospho-β-Catenin (Ser45) Antibody



**Orders** ■ 877-616-CELL (2355)  
orders@cellsignal.com  
**Support** ■ 877-678-TECH (8324)  
info@cellsignal.com  
**Web** ■ www.cellsignal.com

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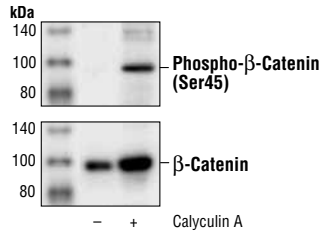
**For Research Use Only. Not For Use In Diagnostic Procedures.**

Applications W Endogenous	Species Cross-Reactivity* H, (M, R, Dg, Pg)	Molecular Wt. 92 kDa	Source Rabbit**
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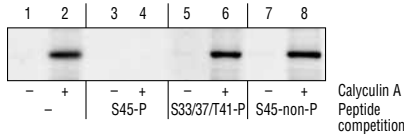
**Background:** β-catenin is a key downstream effector in the Wnt signaling pathway (1). It is implicated in two major biological processes in vertebrates: early embryonic development (2) and tumorigenesis (3). CK1 phosphorylates β-catenin at Ser45. This phosphorylation event primes β-catenin for subsequent phosphorylation by GSK-3 (4-6). GSK-3β destabilizes β-catenin by phosphorylating it at Ser33, Ser37, and Thr41 (7). Mutations at these sites result in the stabilization of β-catenin protein levels and have been found in many tumor cell lines (8).

**Specificity/Sensitivity:** Phospho-β-Catenin (Ser45) Antibody detects endogenous levels of beta-catenin only when phosphorylated at serine 45. It does not recognize β-catenin phosphorylated at other sites.

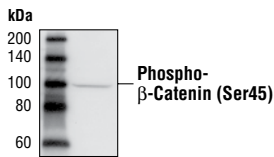
**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser45 of human β-catenin. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from HEK293 cells untreated and treated with calyculin A (50 nM for 30 minutes), using Phospho-β-Catenin (upper) and β-Catenin Antibody #9562 (lower).



Western blot analysis of extracts from HEK293 cells untreated and treated with 50 nM calyculin A for 30 minutes, using Phospho-β-Catenin (Ser45) Antibody (lanes 1-2) or the same antibody after preincubation with listed peptides (lanes 3-8). (S45-P is phospho-Ser45 peptide; S33/37/T41-P is phospho-Ser33/37/Thr41 peptide; S45-non-P is nonphospho-Ser45 peptide.)



Western blot analysis of extracts from SW480 cells using Phospho-β-Catenin (Ser45) Antibody.

Entrez-Gene ID #1499  
Swiss-Prot Acc. #P35222

**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

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](http://www.cellsignal.com) for a complete listing of recommended complementary products.

**Background References:**

- (1) Cadigan, K.M. and Nusse, R. (1997) *Genes Dev.* 11, 3286-3305.
- (2) Wodarz, A. and Nusse, R. (1998) *Annu. Rev. Cell. Dev. Biol.* 14, 59-88.
- (3) Polakis, P. (1999) *Curr. Opin. Genet. Dev.* 9, 15-21.
- (4) Amit, S. et al. (2002) *Genes Dev.* 16, 1066-1076.
- (5) Lin, C. et al. (2002) *Cell* 108, 837-847.
- (6) Yanagawa, S. et al. (2002) *EMBO J.* 21, 1733-1742.
- (7) Yost, C. et al. (1996) *Genes Dev.* 10, 1443-1454.
- (8) Morin, P.J. (1997) *Science* 275, 1787-1790.

**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.