

Phospho-β-Catenin (Ser552) Antibody

✓ 100 µl
(10 Western mini-blots)

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This product is for *in vitro* research use only and is not intended for use in humans or animals.
This product is not intended for use as a therapeutic or in diagnostic procedures.

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

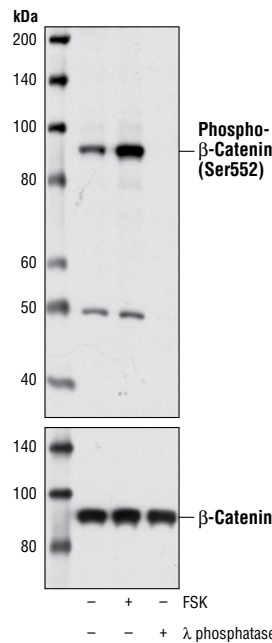
Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP Endogenous	H, M, (R, C, X, Z)	92 kDa	Rabbit**

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 on 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 in these phosphorylation sites, which result in the stabilization of β-catenin protein levels, have been found in many tumor cell lines (8).

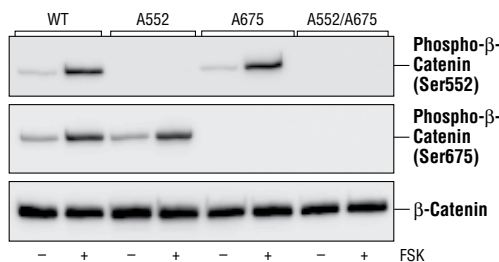
Both Akt and PKA were shown to phosphorylate β-catenin at Ser552. Phosphorylation at Ser552 induces β-catenin accumulation in the nucleus and increases its transcriptional activity (9-11).

Specificity/Sensitivity: Phospho-β-Catenin (Ser552) Antibody detects endogenous levels of β-catenin only when phosphorylated at Ser552.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phospho-peptide (KLH-coupled) corresponding to residues surrounding Ser552 of human β-catenin. Antibodies are purified by peptide affinity chromatography.



Western blot analysis of total cell lysates from SK-N-MC cells, treated with forskolin (FSK) for 30 minutes, or the lysate was treated with λ phosphatase for 1 hour, using Phospho-β-Catenin (Ser552) Antibody (upper) or β-Catenin Antibody (Amino-terminal Antigen) #9581 (bottom).



◀ COS-7 cells were transfected with cDNAs for the DYKDDDDK-tagged wild type (WT) β-catenin or for Ser-to-Ala β-catenin mutants as indicated. Cells were stimulated with 10 mM forskolin (FSK) for 5 minutes and lysed. β-catenin or its mutants were immunoprecipitated with DYKDDDDK Tag Antibody (Binds to same epitope as Sigma's Anti-FLAG® M2 Antibody) #2368 and analyzed by western blotting with Phospho-β-Catenin (Ser552) Antibody #9566, Phospho-β-Catenin (Ser675) Antibody #9567, or DYKDDDDK Tag Antibody as indicated (Figures provided by Drs. Sebastien Taurin and Nickolai Dulin, Department of Medicine / Pulmonary, The University of Chicago).

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 1:50

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

Please visit www.cellsignaling.com for a complete listing of recommended companion 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, 1742.
- (7) Yost, C. et al. (1996) *Genes Dev.* 10, 1443-1454.
- (8) Morin, P.J. (1997) *Science* 275, 1787-1790.
- (9) Taurin, S. et al. (2006) *J. Biol. Chem.* 281, 9971-9976.
- (10) Fang, D. et al. (2007) *J. Biol. Chem.* 282, 11221-11229.
- (11) He, X.C. et al. (2007) *Nat. Genet.* 39, 189-198

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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 All—all species expected Species enclosed in parentheses are predicted to react based on 100% sequence homology.