#4176 Store at -20°C

Phospho-β-Catenin (Ser675) (D2F1) XP® Rabbit mAb

Cell Signaling TECHNOLOGY®

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

Entrez-Gene ID #1499
UniProt ID #P35222

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

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	1:200
Immunofluorescence (IF-IC)	1:100
Immunofluorescence (IF-F)	1:100

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

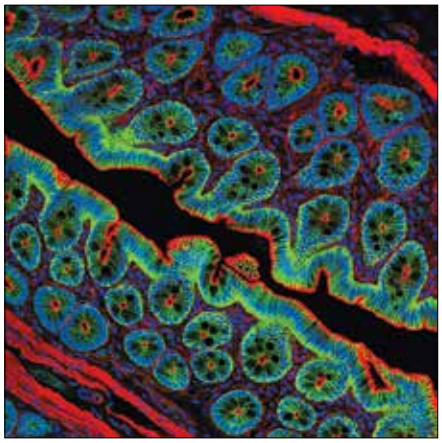
Please visit www.cellsignal.com for a complete listing of recommended companion products.

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).

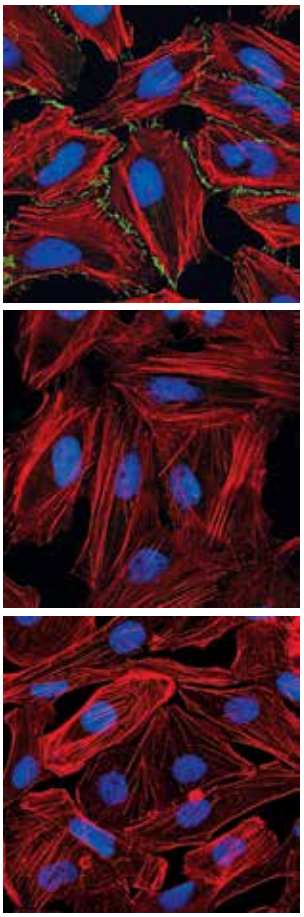
PKA was shown to phosphorylate β-catenin at Ser675. Phosphorylation at Ser675 induces β-catenin accumulation in the nucleus and increases its transcriptional activity (9,10).

Specificity/Sensitivity: Phospho-β-Catenin (Ser675) (D2F1) XP® Rabbit mAb detects endogenous levels of β-catenin only when phosphorylated at Ser675.

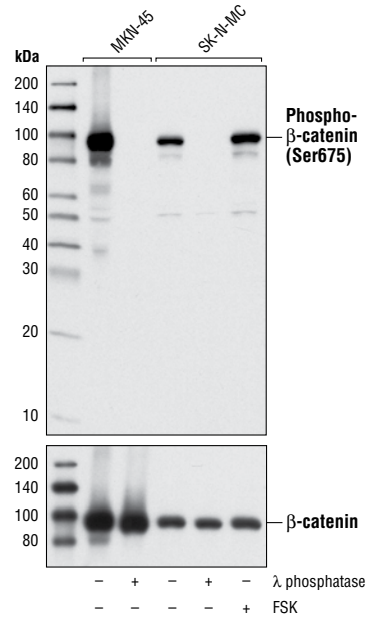
Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser675 of human β-catenin.



Confocal immunofluorescent analysis of rat colon using Phospho-β-Catenin (Ser675) (D2F1) XP® Rabbit mAb (green). Actin filaments have been labeled with DyLight™ 554 Phalloidin #13054 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



Confocal immunofluorescent analysis of HeLa cells, untreated (upper), λ phosphatase-treated (middle), or untreated NCI-H28 cells (β-catenin null; lower) using Phospho-β-Catenin (Ser675) (D2F1) XP® Rabbit mAb (green). Actin filaments have been labeled with DyLight™ 554 Phalloidin #13054 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



Western blot analysis of extracts from MKN-45 and SK-N-MC cells, untreated or treated with λ phosphatase for 1 hour or forskolin (FSK) for 30 minutes, using Phospho-β-Catenin (Ser675) (D2F1) XP® Rabbit mAb (upper) or β-Catenin (6B3) Rabbit mAb #9582 (lower).

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Tween is a registered trademark of ICI Americas, Inc.

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.

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.

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