

# $\beta$ -Catenin (L54E2) Mouse mAb (Alexa Fluor<sup>®</sup> 488 Conjugate)

✓ 100  $\mu$ l  
(50 tests)

New more concentrated formulation

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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	Source	Isotype
F, IF-IC	H, (M, R, Mk, Pg)	Mouse	IgG1

**Description:** This Cell Signaling Technology antibody is conjugated to Alexa Fluor<sup>®</sup> 488 fluorescent dye and tested in-house for direct flow cytometric analysis of human cells. The unconjugated antibody #2677 reacts with human, mouse, rat and monkey total  $\beta$ -catenin protein. CST expects that  $\beta$ -Catenin (L54E2) Mouse mAb (Alexa Fluor<sup>®</sup> 488 Conjugate) will also recognize  $\beta$ -catenin in these species.

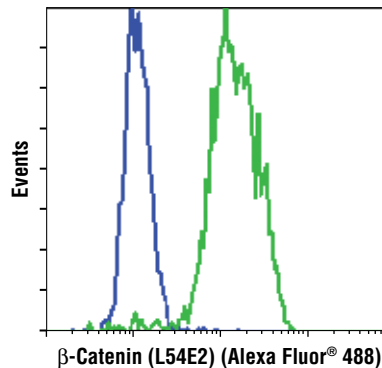
**Background:**  $\beta$ -catenin is a key downstream effector in the Wnt signaling pathway (1). It is implicated in two major biological processes in vertebrates: early embryonic development (2) and tumorigenesis (3). CK1 phosphorylates  $\beta$ -catenin on Ser45. This phosphorylation event primes  $\beta$ -catenin for subsequent phosphorylation by GSK-3 (4-6). GSK-3 $\beta$  destabilizes  $\beta$ -catenin by phosphorylating it at Ser33, Ser37 and Thr41 (7). Mutations in these phosphorylation sites, which result in the stabilization of  $\beta$ -catenin protein levels, have been found in many tumor cell lines (8).

**Specificity/Sensitivity:**  $\beta$ -Catenin (L54E2) Mouse mAb (Alexa Fluor<sup>®</sup> 488 Conjugate) detects endogenous levels of total  $\beta$ -catenin protein.

**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to the carboxy terminus of human  $\beta$ -catenin. The antibody was conjugated to Alexa Fluor<sup>®</sup> 488 under optimal conditions with an F/P ratio of 2-5.

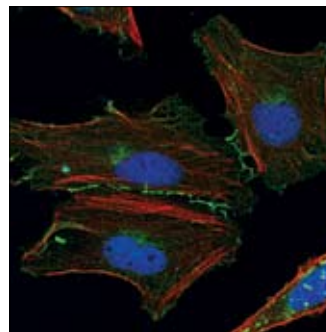
#### Background References:

- (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.



$\beta$ -Catenin (L54E2) (Alexa Fluor<sup>®</sup> 488)

Flow cytometric analysis of NCI-H28 cells (blue) and HeLa cells (green) using  $\beta$ -Catenin (L54E2) Mouse mAb (Alexa Fluor<sup>®</sup> 488 Conjugate).



Confocal immunofluorescent analysis of HeLa cells using  $\beta$ -Catenin (L54E2) Mouse mAb (Alexa Fluor<sup>®</sup> 488 Conjugate) (green). Actin filaments have been labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5<sup>®</sup> #4084 (fluorescent DNA dye).

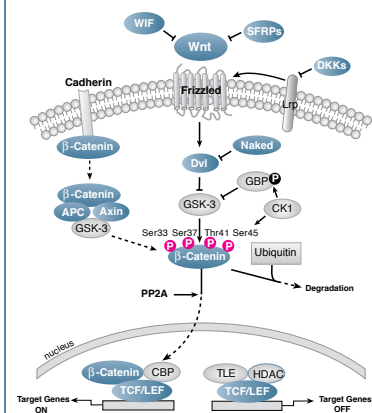
**Storage:** Supplied in PBS (pH 7.2), less than 0.1% sodium azide, 2 mg/ml BSA. Store at 4°C. Protect from light. Do not freeze.

#### Recommended Antibody Dilutions:

Flow Cytometry 1:50  
Immunofluorescence (IF-IC) 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.



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