

**Orders:** 877-616-CELL (2355)  
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

**#4270**  
Store at -20C

## Non-phospho (Active) $\beta$ -Catenin (Ser33/37/Thr41) Antibody

For Research Use Only. Not for Use in Diagnostic Procedures.

| Applications: | Reactivity: | Sensitivity: | MW (kDa): | Source/Isotype: | UniProt ID: | Entrez-Gene Id: |
|---------------|-------------|--------------|-----------|-----------------|-------------|-----------------|
| W             | H M R Mk    | Endogenous   | 92        | Rabbit          | #P35222     | 1499            |

### Product Usage Information

#### Application

Western Blotting

#### Dilution

1:1000

### Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100  $\mu$ g/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

### Specificity/Sensitivity

Non-phospho (Active)  $\beta$ -Catenin (Ser33/37/Thr41) Antibody recognizes endogenous  $\beta$ -Catenin when residues Ser33, Ser37, and Thr41 are not phosphorylated. It does not detect  $\beta$ -Catenin if tri-phosphorylated at Ser33/Ser37/Thr41. This antibody may also detect  $\beta$ -Catenin protein when singly phosphorylated at Ser33. This specificity data was derived from competition ELISA and dot blot analysis using synthetic peptides.

### Species predicted to react based on 100% sequence homology

Chicken, Xenopus, Zebrafish, Dog

### Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser37 of human  $\beta$ -catenin. Antibodies are purified by protein A and peptide affinity chromatography.

### 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 at Ser45. This phosphorylation event primes  $\beta$ -catenin for subsequent phosphorylation by GSK-3 $\beta$  (4-6). GSK-3 $\beta$  destabilizes  $\beta$ -catenin by phosphorylating it at Ser33, Ser37, and Thr41 (7). Mutations at these sites result in the stabilization of  $\beta$ -catenin protein levels and have been found in many tumor cell lines (8).

### 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, 1066-76.
5. Liu, C. et al. (2002) *Cell* 108, 837-47.
6. Yanagawa, S. et al. (2002) *EMBO J* 21, 1733-42.
7. Yost, C. et al. (1996) *Genes Dev* 10, 1443-54.
8. Morin, P.J. et al. (1997) *Science* 275, 1787-90.

### Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

### Western Blot Buffer

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

### Applications Key

**W:** Western Blotting

### Cross-Reactivity Key

**H:** Human **M:** Mouse **R:** Rat **Mk:** Monkey

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