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Store at -20C  
#9567

## Phospho- $\beta$ -Catenin (Ser675) Antibody

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

<b>Applications:</b> W, IP	<b>Reactivity:</b> H R	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 92	<b>Source/Isotype:</b> Rabbit	<b>UniProt ID:</b> #P35222	<b>Entrez-Gene Id:</b> 1499
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### Product Usage Information

#### Application

Western Blotting  
Immunoprecipitation

#### Dilution

1:1000  
1:50

### 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

Phospho- $\beta$ -Catenin (Ser675) Antibody detects endogenous levels of  $\beta$ -catenin only when phosphorylated at Ser675.

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

Mouse, Chicken, Xenopus, Zebrafish

### Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser675 of human  $\beta$ -catenin. Antibodies are purified by 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).

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

### 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.
9. Taurin, S. et al. (2006) *J. Biol. Chem.* 281, 9971-9976.
10. Hino, S. et al. (2005) *Mol. Cell Biol.* 25, 9063-9072.

### 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 **IP:** Immunoprecipitation

### Cross-Reactivity Key

**H:** Human **R:** Rat

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