

Store at -20C  
#9030

## Acetyl- $\beta$ -Catenin (Lys49) (D7C2) Rabbit mAb



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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H M Mk	Endogenous	92	Rabbit IgG	#P35222	1499

### Product Usage Information

#### Application

Western Blotting  
Immunoprecipitation

#### Dilution

1:1000  
1:200

### Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100  $\mu$ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

### Specificity / Sensitivity

Acetyl- $\beta$ -Catenin (Lys49) (D7C2) Rabbit mAb recognizes endogenous levels of  $\beta$ -catenin protein only when acetylated at Lys49.

### Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic acetylated peptide corresponding to residues surrounding Lys49 of human  $\beta$ -catenin protein.

### 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).

Lys49 lies in a region that contains several Ser/Thr residues whose phosphorylation status regulates the stability of  $\beta$ -catenin. Research studies have shown that Lys49 is one of few residues frequently mutated in thyroid anaplastic carcinoma (9). CREB-binding protein (CBP) binds and acetylates  $\beta$ -catenin at Lys49 (10,11).

### Background References

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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. Polakis, P. (2000) *Genes Dev* 14, 1837-51.
10. Takemaru, K.I. and Moon, R.T. (2000) *J Cell Biol* 149, 249-54.
11. Wolf, D. et al. (2002) *J Biol Chem* 277, 25562-7.

### 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

**WB:** Western Blotting **IP:** Immunoprecipitation

### Cross-Reactivity Key

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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