Revision 1

Store at -20C

#9030

# Acetyl-β-Catenin (Lys49) (D7C2) Rabbit mAb

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

## Product Usage Information

| Application | Dilution |
|---|---|
| Western Blotting | 1:1000 |
| Immunoprecipitation | 1:200 |

## 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.

## Specificity/Sensitivity

Acetyl-β-Catenin (Lys49) (D7C2) Rabbit mAb recognizes endogenous levels of β-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 β-catenin protein.

## 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 at Ser45. This phosphorylation event primes β-catenin for subsequent phosphorylation by GSK-3β (4-6). GSK-3β destabilizes β-catenin by phosphorylating it at Ser33, Ser37, and Thr41 (7). Mutations at these sites result in the stabilization of β-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 β-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 β-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

**W:** Western Blotting **IP:** Immunoprecipitation

## Cross-Reactivity Key

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

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## Limited Uses

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