

Non-phospho (Active) β -Catenin (Ser33/37/Thr41) (D13A1) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene ID:
W, IP, IHC-P, IF-IC, FC-FP, ChIP, ChIP-seq, C&R	H M R Mk	Endogenous	92	Rabbit IgG	#P35222	1499

Product Usage Information

For optimal ChIP and ChIP-seq results, use 5 μ l of antibody and 10 μ g of chromatin (approximately 4 \times 10⁶ cells) per IP. This antibody has been validated using SimpleChIP[®] Enzymatic Chromatin IP Kits.

The CUT&RUN dilution was determined using CUT&RUN Assay Kit #86652.

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100
Immunohistochemistry (Paraffin)	1:400 - 1:1600
Immunofluorescence (Immunocytochemistry)	1:800 - 1:3200
Flow Cytometry (Fixed/Permeabilized)	1:800 - 1:1600
Chromatin IP	1:100
Chromatin IP-seq	1:100
CUT&RUN	1:100

Storage

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

For a carrier free (BSA and azide free) version of this product see product #33893.

Specificity/Sensitivity

Non-phospho (Active) β -Catenin (Ser33/37/Thr41) (D13A1) Rabbit mAb recognizes endogenous β -catenin protein when residues Ser33, Ser37, and Thr41 are not phosphorylated. It does not detect β -catenin protein if tri-phosphorylated at Ser33/Ser37/Thr41. This antibody may also detect β -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, Bovine, Dog, Pig, Horse, Guinea Pig

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser37 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-3 β (4-6). GSK-3 β 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).

Non-phospho (Active) β -Catenin (Ser33/37/Thr41) (D13A1) Rabbit mAb is designed to specifically recognize the stabilized form of β -catenin, i.e., protein that has not been phosphorylated by GSK-3, and thus is functionally active in cell-cell adhesion and/or the canonical Wnt signaling pathway.

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 **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin) **IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized) **ChIP:** Chromatin IP **ChIP-seq:** Chromatin IP-seq **C&R:** CUT&RUN

Cross-Reactivity Key

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

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