

# PRODUCT INFORMATION



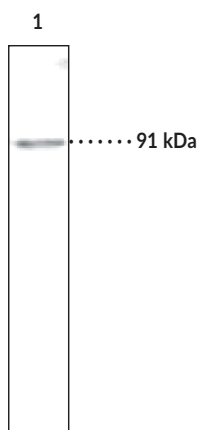
## β-Catenin Polyclonal Antibody

Item No. 100029

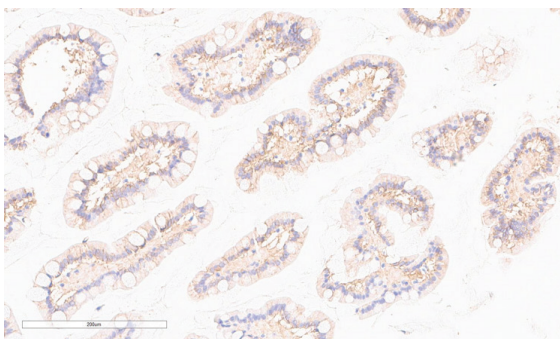
### Overview and Properties

<b>Contents:</b>	This vial contains 500 μl of peptide affinity-purified polyclonal antibody.
<b>Synonym:</b>	Catenin (Cadherin-associated Protein), Beta 1, CTNNB1, EVR7, MRD19, NEDSDV
<b>Immunogen:</b>	Synthetic peptide corresponding to the N-terminal region of human β-catenin
<b>Species Reactivity:</b>	(+) Human, bovine, mouse, porcine, and rat; other species not tested
<b>Uniprot No.:</b>	P35222
<b>Form:</b>	Liquid
<b>Storage:</b>	-20°C (as supplied)
<b>Stability:</b>	≥3 years
<b>Storage Buffer:</b>	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
<b>Host:</b>	Rabbit
<b>Applications:</b>	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:200. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

### Images



Lane 1: RAW 264.7 cell lysate (45 μg)



Immunohistochemistry analysis of formalin-fixed, paraffin-embedded (FFPE) human colon tissue after heat-induced antigen retrieval in pH 6.0 citrate buffer. After incubation with β-Catenin Polyclonal Antibody (Item No. 100029) at a 1:40 dilution, slides were incubated with biotinylated secondary antibody, followed by alkaline phosphatase-streptavidin and chromogen (DAB).

**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

**WARRANTY AND LIMITATION OF REMEDY**  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 10/10/2023

**CAYMAN CHEMICAL**  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
FAX: [734] 971-3640  
CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM

# PRODUCT INFORMATION



## Description

---

$\beta$ -Catenin is a transcriptional coactivator that is encoded by the *CTNNB1* gene in humans.<sup>1,2</sup> It is a 781 amino acid protein comprised of an N-terminal domain containing glycogen synthase kinase 3 $\beta$  (GSK3 $\beta$ ) phosphorylation sites, a C-terminal transactivation domain, and a central domain spanning amino acid residues 138-664.<sup>3,4</sup> The central domain consists of 12 armadillo repeats and is required for binding to cadherins, TCF/LEF transcription factors, and adenomatous polyposis coli (APC).  $\beta$ -Catenin has roles in cell adhesion, canonical Wnt signaling, regulation of stem cells, embryonic development, and adult tissue homeostasis, among others.<sup>1,3</sup> In the absence of Wnt, a complex consisting of axin, APC, GSK3 $\beta$ , and casein kinase 1 (CK1), binds to and phosphorylates  $\beta$ -catenin, targeting it for ubiquitination and proteosomal degradation.<sup>1</sup> In the presence of Wnt, phosphorylation of  $\beta$ -catenin is inhibited, allowing  $\beta$ -catenin to translocate into the nucleus, where it interacts with TCF/LEF to activate expression of Wnt target genes. Activating mutations in *CTNNB1* that stabilize  $\beta$ -catenin have been associated with a variety of cancers, including hepatocellular and adrenocortical carcinomas, colorectal cancer, and pilomatricomas.<sup>4-7</sup> Cayman's  $\beta$ -Catenin Polyclonal Antibody can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

## References

---

1. MacDonald, B.T., Tamai, K., and He, X. Wnt/ $\beta$ -catenin Signaling: Components, mechanisms, and diseases. *Dev. Cell.* **17(1)**, 9-26 (2009).
2. Nollet, F., Berx, G., Molemans, F., *et al.* Genomic organization of the human  $\beta$ -catenin gene (*CTNNB1*). *Genomics* **32(3)**, 413-424 (1996).
3. Xing, Y., Takemaru, K.-I., Liu, J., *et al.* Crystal structure of a full-length  $\beta$ -catenin. *Structure* **16(3)**, 478-487 (2008).
4. Akiyama, T. Wnt/ $\beta$ -catenin signaling. *Cytokine Growth Factor Rev.* **11(4)**, 273-282 (2000).
5. de La Coste, A., Romagnolo, B., Billuart, P., *et al.* Somatic mutations of the  $\beta$ -catenin gene are frequent in mouse and human hepatocellular carcinomas. *Proc. Natl. Acad. Sci. USA* **95(15)**, 8847-8851 (1998).
6. Clevers, H. Wnt/ $\beta$ -catenin signaling in development and disease. *Cell* **127(3)**, 469-480 (2006).
7. Durand, J., Lampron, A., Mazzuco, T.L., *et al.* Characterization of differential gene expression in adrenocortical tumors harboring  $\beta$ -catenin (*CTNNB1*) mutations. *J. Clin. Endocrinol. Metab.* **96(7)**, E1206-E1211 (2011).