

**Phospho-b-Catenin Antibody**  
**Rabbit Polyclonal Antibody**  
**Catalog # ABV10277****Specification**

---

**Phospho-b-Catenin Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">P35222</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	85497

**Phospho-b-Catenin Antibody - Additional Information****Gene ID** 1499**Application & Usage**

**Western blotting (0.5-4 µg/ml). However, the optimal concentrations should be determined individually. The antibody recognizes 90 kDa phosphorylated β-Catenin (Ser45) of human, mouse, and rat origin.**

**Other Names**

Beta-catenin, Catenin beta-1, CTNNB

**Target/Specificity**

Phospho-b-Catenin (Ser45)

**Antibody Form**

Liquid

**Appearance**

Colorless liquid

**Formulation**

100 µg (0.5 mg/ml) immunoaffinity purified rabbit polyclonal anti-phospho-β-Catenin antibody in phosphate-buffered saline (PBS) containing 50% glycerol, 1% BSA, and 0.02% thimerosal.

**Handling**

The antibody solution should be gently mixed before use.

**Reconstitution & Storage**

-20 °C

**Background Descriptions****Precautions**

Phospho-b-Catenin Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Phospho-b-Catenin Antibody - Protein Information

**Name** CTNNB1 ([HGNC:2514](#))

**Synonyms** CTNNB

### Function

Key downstream component of the canonical Wnt signaling pathway (PubMed: <a href="http://www.uniprot.org/citations/17524503" target="\_blank">17524503</a>, PubMed: <a href="http://www.uniprot.org/citations/18077326" target="\_blank">18077326</a>, PubMed: <a href="http://www.uniprot.org/citations/18086858" target="\_blank">18086858</a>, PubMed: <a href="http://www.uniprot.org/citations/18957423" target="\_blank">18957423</a>, PubMed: <a href="http://www.uniprot.org/citations/21262353" target="\_blank">21262353</a>, PubMed: <a href="http://www.uniprot.org/citations/22155184" target="\_blank">22155184</a>, PubMed: <a href="http://www.uniprot.org/citations/22647378" target="\_blank">22647378</a>, PubMed: <a href="http://www.uniprot.org/citations/22699938" target="\_blank">22699938</a>). In the absence of Wnt, forms a complex with AXIN1, AXIN2, APC, CSNK1A1 and GSK3B that promotes phosphorylation on N- terminal Ser and Thr residues and ubiquitination of CTNNB1 via BTRC and its subsequent degradation by the proteasome (PubMed: <a href="http://www.uniprot.org/citations/17524503" target="\_blank">17524503</a>, PubMed: <a href="http://www.uniprot.org/citations/18077326" target="\_blank">18077326</a>, PubMed: <a href="http://www.uniprot.org/citations/18086858" target="\_blank">18086858</a>, PubMed: <a href="http://www.uniprot.org/citations/18957423" target="\_blank">18957423</a>, PubMed: <a href="http://www.uniprot.org/citations/21262353" target="\_blank">21262353</a>, PubMed: <a href="http://www.uniprot.org/citations/22155184" target="\_blank">22155184</a>, PubMed: <a href="http://www.uniprot.org/citations/22647378" target="\_blank">22647378</a>, PubMed: <a href="http://www.uniprot.org/citations/22699938" target="\_blank">22699938</a>). In the presence of Wnt ligand, CTNNB1 is not ubiquitinated and accumulates in the nucleus, where it acts as a coactivator for transcription factors of the TCF/LEF family, leading to activate Wnt responsive genes (PubMed: <a href="http://www.uniprot.org/citations/17524503" target="\_blank">17524503</a>, PubMed: <a href="http://www.uniprot.org/citations/18077326" target="\_blank">18077326</a>, PubMed: <a href="http://www.uniprot.org/citations/18086858" target="\_blank">18086858</a>, PubMed: <a href="http://www.uniprot.org/citations/18957423" target="\_blank">18957423</a>, PubMed: <a href="http://www.uniprot.org/citations/21262353" target="\_blank">21262353</a>, PubMed: <a href="http://www.uniprot.org/citations/22155184" target="\_blank">22155184</a>, PubMed: <a href="http://www.uniprot.org/citations/22647378" target="\_blank">22647378</a>, PubMed: <a href="http://www.uniprot.org/citations/22699938" target="\_blank">22699938</a>). Involved in the regulation of cell adhesion, as component of an E-cadherin:catenin adhesion complex (By similarity). Acts as a negative regulator of centrosome cohesion (PubMed: <a href="http://www.uniprot.org/citations/18086858" target="\_blank">18086858</a>). Involved in the CDK2/PTPN6/CTNNB1/CEACAM1 pathway of insulin internalization (PubMed: <a href="http://www.uniprot.org/citations/21262353" target="\_blank">21262353</a>). Blocks anoikis of malignant kidney and intestinal epithelial cells and promotes their anchorage-independent growth by down-regulating DAPK2 (PubMed: <a href="http://www.uniprot.org/citations/18957423" target="\_blank">18957423</a>). Disrupts PML function and PML- NB formation by inhibiting RANBP2-mediated sumoylation of PML (PubMed: <a href="http://www.uniprot.org/citations/22155184" target="\_blank">22155184</a>). Promotes neurogenesis by maintaining sympathetic neuroblasts within the cell cycle (By similarity). Involved in chondrocyte differentiation via interaction with SOX9: SOX9-binding competes with the binding sites of TCF/LEF within CTNNB1, thereby inhibiting the Wnt signaling (By similarity). Acts as a positive regulator of odontoblast differentiation during mesenchymal tooth germ formation, via promoting the transcription of differentiation factors such as LEF1, BMP2 and BMP4 (By similarity).

Activity is repressed in a MSX1-mediated manner at the bell stage of mesenchymal tooth germ formation which prevents premature differentiation of odontoblasts (By similarity).

#### **Cellular Location**

Cytoplasm. Nucleus. Cytoplasm, cytoskeleton {ECO:0000250|UniProtKB:B6V8E6}. Cell junction, adherens junction. Cell junction {ECO:0000250|UniProtKB:B6V8E6}. Cell membrane. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cytoskeleton, spindle pole. Synapse {ECO:0000250|UniProtKB:Q02248} Cytoplasm, cytoskeleton, cilium basal body {ECO:0000250|UniProtKB:Q02248}. Note=Colocalized with RAPGEF2 and TJP1 at cell-cell contacts (By similarity). Cytoplasmic when it is un-stable (highly phosphorylated) or bound to CDH1. Translocates to the nucleus when it is stabilized (low level of phosphorylation). Interaction with GLIS2 and MUC1 promotes nuclear translocation. Interaction with EMD inhibits nuclear localization. The majority of beta-catenin is localized to the cell membrane. In interphase, colocalizes with CROCC between CEP250 puncta at the proximal end of centrioles, and this localization is dependent on CROCC and CEP250. In mitosis, when NEK2 activity increases, it localizes to centrosomes at spindle poles independent of CROCC. Colocalizes with CDK5 in the cell-cell contacts and plasma membrane of undifferentiated and differentiated neuroblastoma cells. Interaction with FAM53B promotes translocation to the nucleus (PubMed:25183871). {ECO:0000250|UniProtKB:B6V8E6, ECO:0000269|PubMed:25183871}

#### **Tissue Location**

Expressed in several hair follicle cell types: basal and peripheral matrix cells, and cells of the outer and inner root sheaths. Expressed in colon. Present in cortical neurons (at protein level). Expressed in breast cancer tissues (at protein level) (PubMed:29367600).

### **Phospho-b-Catenin Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### **Phospho-b-Catenin Antibody - Images**

### **Phospho-b-Catenin Antibody - Background**

Catenin is one of the key downstream effectors in the Wnt signaling pathway. It has been implicated to play an important role in early embryonic development and tumorigenesis.  $\beta$ -catenin can be destabilized by GSK-3 $\beta$  or other kinases by phosphorylating it at serines 33, 37, 45 and threonine 41. Mutations of these phosphorylation sites in  $\beta$ -catenin have been found in many tumor cell lines.