

**Anti-Beta Catenin Antibody**  
Catalog # ABO10593**Specification****Anti-Beta Catenin Antibody - Product Information**

Application	WB, IHC
Primary Accession	<a href="#">P35222</a>
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

**Description**

Rabbit IgG polyclonal antibody for Catenin beta-1(CTNNB1) detection. Tested with WB, IHC-P, IHC-F, ICC in Human;Mouse;Rat.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

**Anti-Beta Catenin Antibody - Additional Information**

**Gene ID** 1499

**Other Names**

Catenin beta-1, Beta-catenin, CTNNB1, CTNNB

**Calculated MW**

85497 MW KDa

**Application Details**

Immunocytochemistry , 0.5-1 µg/ml, Human, Mouse, Rat<br>Immunohistochemistry(Frozen Section), 0.5-1 µg/ml, Mouse, Rat, Human<br>Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Mouse, Rat, By Heat<br>Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat<br>

**Subcellular Localization**

Cytoplasm. Nucleus . Cytoplasm, cytoskeleton. Cell junction, adherens junction. Cell junction. Cell membrane . Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cytoskeleton, spindle pole. Colocalized with RAPGEF2 and TJP1 at cell-cell contacts (By similarity). Cytoplasmic when it is unstabilized (high level of phosphorylation) 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. .

**Tissue Specificity**

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). .

### Protein Name

Catenin beta-1

### Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Thimerosal, 0.05mg NaN<sub>3</sub>.

### Immunogen

A synthetic peptide corresponding to a sequence at the C-terminus of human beta Catenin(764-781aa DGLPPGDSNQLAWFDL), identical to the related rat and mouse sequences.

### Purification

Immunogen affinity purified.

### Cross Reactivity

No cross reactivity with other proteins

### Storage

**At -20°C for one year. After r°Constitution, at 4°C for one month. It°Can also be aliquotted and stored frozen at -20°C for a longer time.Avoid repeated freezing and thawing.**

### Sequence Similarities

Belongs to the beta-catenin family.

## Anti-Beta 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). Translocates to the nucleus in the presence of SNAIL1 (By similarity). {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).

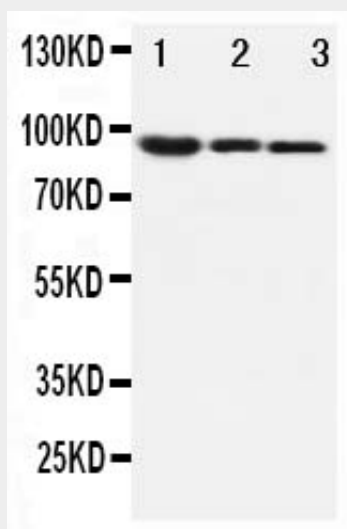
#### Anti-Beta Catenin Antibody - Protocols

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

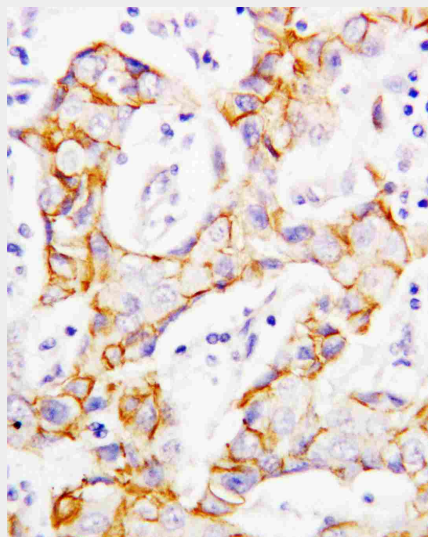
- [Western Blot](#)
- [Blocking Peptides](#)

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

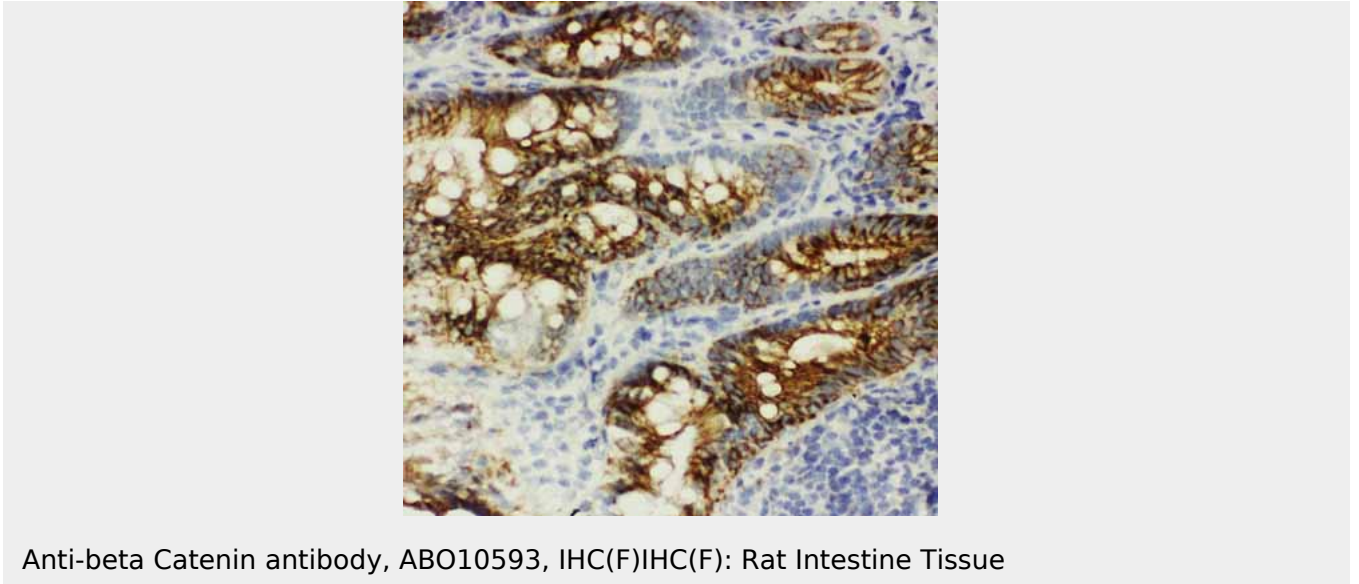
#### Anti-Beta Catenin Antibody - Images



Anti-beta Catenin antibody, ABO10593, Western blotting Lane 1: MM453 Cell Lysate Lane 2: MCF-7 Cell Lysate Lane 3: HELA Cell Lysate



Anti-beta Catenin antibody, ABO10593, IHC(P) IHC(P): Human Mammary Cancer Tissue



Anti-beta Catenin antibody, ABO10593, IHC(F)IHC(F): Rat Intestine Tissue

### **Anti-Beta Catenin Antibody - Background**

Catenins are proteins found in complexes with cadherin cell adhesion molecules of animal cells. The first two catenins that were identified became known as alpha-catenin and beta-catenin. Alpha-catenin can bind to beta-catenin and can also bind actin. Beta-catenin binds the cytoplasmic domain of some cadherins. Beta-catenin is an adherens junction protein. It plays an important role in various aspects of liver biology including liver development(both embryonic and postnatal), liver regeneration following partial hepatectomy. HGF-induced hepatomegaly, liver zonation, and pathogenesis of liver cancer.