

Rabbit Catenin-beta Polyclonal Antibody | anti-CTNNB1 antibody

Catenin-beta Antibody

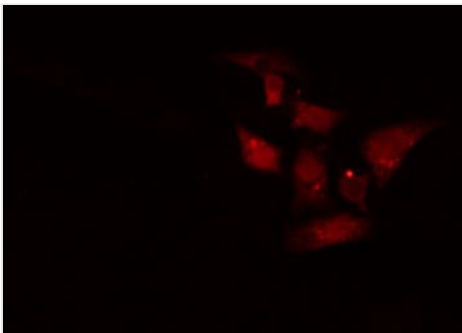
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA326556	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

Catenin-beta; Polyclonal Antibody; Catenin-beta Antibody; Beta catenin; Beta-catenin; Cadherin associated protein; Catenin (cadherin associated protein); beta 1; 88kDa; Catenin beta 1; Catenin beta-1; CATNB; CHBCAT; CTNB1_HUMAN; CTNNB; CTNNB1; DKFZp686D02253; FLJ25606; FLJ37923; OTTHUMP00000162082; OTTHUMP00000165222; OTTHUMP00000165223; OTTHUMP00000209288; OTTHUMP00000209289; anti-CTNNB1 antibody

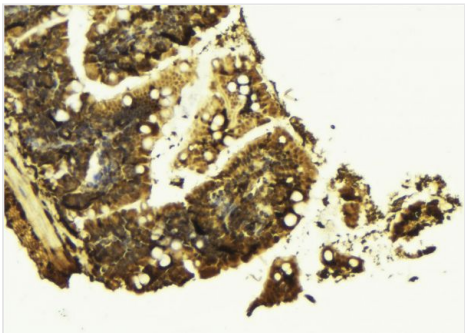
PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	CTNNB1 antibody detects endogenous levels of total CTNNB1
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	781
Applicable Applications for anti-CTNNB1 antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthetic peptide of human CTNNB1
Subcellular Location	Cytoplasm. Nucleus. Cytoplasm > Cytoskeleton. Cell Junction > Adherens Junction. Cell junction. Cell Membrane. 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.
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). Expressed in breast cancer tissues (at protein level) (PubMed:29367600).
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



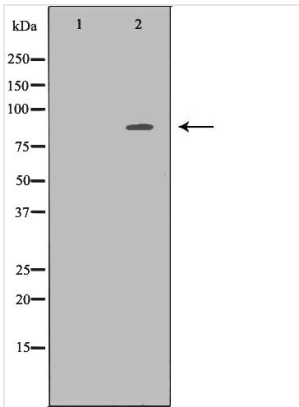
IF (Immunofluorescence)

AAA326556 staining SW626 cells by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) antibody, diluted at 1/600, was used as secondary antibody.



IHC (Immunohistochemistry)

AAA326556 at 1/100 staining Mouse colon tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



WB (Western Blot)

Western blot analysis of extracts of HeLa, using CTNNB1 antibody. The lane on the left is treated with the antigen-specific peptide.

Related Product Information for anti-CTNNB1 antibody	Description: Beta-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 beta-catenin at Ser45. This phosphorylation event primes beta-catenin for subsequent phosphorylation by GSK-3beta (4-6). GSK-3beta destabilizes beta-catenin by phosphorylating it at Ser33, Ser37, and Thr41 (7). Mutations at these sites result in the stabilization of beta-catenin protein levels and have been found in many tumor cell lines (8). Function: Key downstream component of the canonical Wnt signaling pathway. 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. 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. Involved in the regulation of cell adhesion, as component of an E-cadherin:catenin adhesion complex. Acts as a negative regulator of centrosome cohesion. Involved in the CDK2/PTPN6/CTNNB1/CEACAM1 pathway of insulin internalization. Blocks anoikis of malignant kidney and intestinal epithelial cells and promotes their anchorage-independent growth by down-regulating DAPK2. Disrupts PML function and PML-NB formation by inhibiting RANBP2-mediated sumoylation of PML (PubMed:17524503, PubMed:18077326, PubMed:18086858, PubMed:18957423, PubMed:21262353, PubMed:22647378, PubMed:22699938, PubMed:22155184). Promotes neurogenesis by maintaining sympathetic neuroblasts within the cell cycle (By similarity). Subunit Structure: Two separate complex-associated pools are found in the cytoplasm. The majority is present as component of an E-cadherin:catenin adhesion complex composed of at least E-cadherin/CDH1 and beta-catenin/CTNNB1, and possibly alpha-catenin/CTNNA1; the complex is located to adherens junctions. The stable association of CTNNA1 is controversial as CTNNA1 was shown not to bind to F-actin when assembled in the complex. Alternatively, the CTNNA1-containing complex may be linked to F-actin by other proteins such as LIMA1. Another cytoplasmic pool is part of a large complex containing 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. Wnt-dependent activation of DVL antagonizes the action of GSK3B. When GSK3B activity is inhibited the complex dissociates, CTNNB1 is dephosphorylated and is no longer targeted for destruction. The stabilized protein translocates to the nucleus, where it binds TCF/LEF-1 family members, TBP, BCL9, BCL9L and possibly also RUVBL1 and CHD8. Binds CTNNBIP and EP300. CTNNB1 forms a ternary complex with LEF1 and EP300 that is disrupted by CTNNBIP1 binding. Interacts with TAX1BP3 (via the PDZ domain); this interaction inhibits the transcriptional activity of CTNNB1. Interacts with AJAP1, BAIAP1, CARM1, CTNNA3, CXADR and PCDH11Y. Binds SLC9A3R1. Interacts with GLIS2 and MUC1. Interacts with SLC30A9. Interacts with XIRP1. Interacts directly with AXIN1; the interaction is regulated by CDK2 phosphorylation of AXIN1. Interacts with SCRIB. Interacts with RAPGEF2. Interacts with PTPRU (via the cytoplasmic juxtamembrane domain). Interacts with EMD. Interacts with TNIK and TCF7L2. Interacts with SESTD1 and TRPC4. Interacts with CAV1. Interacts with TRPV4. The TRPV4 and CTNNB1 complex can interact with CDH1. Interacts with VCL. Interacts with PTPRJ. Interacts with PKT7 and CDK2. Interacts with FAT1 (via the cytoplasmic domain). Interacts with NANOS1 and NDRG2. Interacts with isoform 1 of NEK2. Interacts with both isoform 1 and isoform 2 of CDK5. Interacts with PTK6. Interacts with SOX7; this interaction may lead to proteasomal degradation of active CTNNB1 and thus inhibition of Wnt/beta-catenin-stimulated transcription. Identified in a complex with HINT1 and MITF. Interacts with FHIT. The CTNNB1 and TCF7L2/TCF4 complex interacts with PML (isoform PML-4). Interacts with FERMT2. Identified in a complex with TCF7L2/TCF4 and FERMT2. Interacts with RORA. May interact with P-cadherin/CDH3. Interacts with RNF220 (PubMed:25266658). Interacts with CTNND2 (PubMed:25807484). Interacts (via the C-terminal region) with CBY1 (PubMed:12712206, PubMed:16424001). The complex composed, at least, of APC, CTNNB1 and GSK3B interacts with JPT1; the interaction requires the inactive form of GSK3B (phosphorylated at 'Ser-9') (PubMed:25169422). Interacts with DLG5 (By similarity). Interacts with FAM53B; promoting translocation to the nucleus (PubMed:25183871). Interacts with TMEM170B (PubMed:29367600). Interacts with AHI1 (PubMed:21623382). Post-translational Modifications: Phosphorylation at Ser-552 by AMPK promotes stabilization of the protein, enhancing TCF/LEF-mediated transcription (By similarity). Phosphorylation by GSK3B requires prior phosphorylation of Ser-45 by another kinase. Phosphorylation proceeds then from Thr-41 to Ser-37 and Ser-33. Phosphorylated by NEK2. EGF stimulates tyrosine phosphorylation. Phosphorylation on Tyr-654 decreases CDH1 binding and enhances TBP binding. Phosphorylated on Ser-33 and Ser-37 by HIPK2 and GSK3B, this phosphorylation triggers proteasomal degradation (PubMed:25169422). Phosphorylation on Ser-191 and Ser-246 by CDK5. Phosphorylation by CDK2 regulates insulin internalization. Phosphorylation by PTK6 at Tyr-64, Tyr-142, Tyr-331 and/or Tyr-333 with the predominant site at Tyr-64 is not essential for inhibition of transcriptional activity. Ubiquitinated by the SCF(BTRC) E3 ligase complex when phosphorylated by GSK3B, leading to its degradation. Ubiquitinated by a E3 ubiquitin ligase complex containing UBE2D1, SIAH1, CACYBP/SIP, SKP1, APC and TBL1X, leading to its subsequent proteasomal degradation (By similarity). S-nitrosylation at Cys-619 within adherens junctions promotes VEGF-induced, NO-dependent endothelial cell permeability by disrupting interaction with E-cadherin, thus mediating disassembly adherens junctions. O-glycosylation at Ser-23 decreases nuclear localization and transcriptional activity, and increases localization to the plasma membrane and interaction with E-cadherin CDH1. Deacetylated at Lys-49 by SIRT1. Similarity: Belongs to the beta-catenin family.
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References	Kong J, Di C, Piao J, Sun J, Han L, Chen L, Yan G, Lin Z; Journal: Oncotarget. Ezrin contributes to cervical cancer progression through induction of epithelial-mesenchymal transition. Tong Lu, Huayou Luo, Jia Liu, Cheng Chen, Feng Wang, Zongwen Shen, Tonglei Liu, Yujian Zeng, Ting-Hua Wang, Kun-Hua Wang; Journal: Int J Clin Exp Pathol.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	148233338
NCBI GeneID	1499
NCBI Accession #	NP_001091679.1
NCBI GenBank Nucleotide #	NM_001098209.1
UniProt Accession #	P35222; Q8NEW9; Q8NI94; Q9H391; A8K1L7
Molecular Weight	Observed: 86 kDa Predicted: 86 kDa
NCBI Official Full Name	catenin beta-1 isoform 1
NCBI Official Synonym Full Names	catenin beta 1
NCBI Official Symbol	CTNNB1
NCBI Official Synonym Symbols	EVR7; CTNNB; MRD19; armadillo
NCBI Protein Information	catenin beta-1
UniProt Protein Name	Catenin beta-1
UniProt Gene Name	CTNNB1
UniProt Synonym Gene Names	CTNNB

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