10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

beta-Catenin (p120) Antibody - With BSA and Azide

Rabbit Polyclonal Antibody
Catalog # AH10420

Product Information

Application	WB, IF, FC, IHC-P
Primary Accession	P35222
Other Accession	1499, 476018
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit / IgG
Clone Names	
Calculated MW	85497

Additional Information

Gene ID	1499
Other Names	Catenin beta-1, Beta-catenin, CTNNB1, CTNNB
Application Note	WB~~1:1000 IF~~1:50~200 FC~~1:10~50 IHC-P~~N/A
Format	200ug/ml of Ab purified from rabbit anti-serum by Protein A. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA at 1.0mg/ml.
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	beta-Catenin (p120) Antibody - With BSA and Azide is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CTNNB1 (HGNC:2514)
Synonyms	CTNNB
Function	Key downstream component of the canonical Wnt signaling pathway (PubMed:17524503, PubMed:18077326, PubMed:18086858, PubMed:18957423, PubMed:21262353, PubMed:22155184, PubMed:22647378, PubMed:22699938). 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:17524503, PubMed:18077326, PubMed:18086858,

PubMed:18957423, PubMed:21262353, PubMed:22155184, PubMed:22647378, PubMed:22699938). 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:17524503, PubMed:18077326, PubMed:18086858, PubMed:18957423, PubMed:21262353, PubMed:22155184, PubMed:22647378, PubMed:22699938). Also acts as a coactivator for other transcription factors, such as NR5A2 (PubMed:22187462). Promotes epithelial to mesenchymal transition/mesenchymal to epithelial transition (EMT/MET) via driving transcription of CTNNB1/TCF-target genes (PubMed:29910125). 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:18086858). Involved in the CDK2/PTPN6/CTNNB1/CEACAM1 pathway of insulin internalization (PubMed:21262353). Blocks anoikis of malignant kidney and intestinal epithelial cells and promotes their anchorage-independent growth by down-regulating DAPK2 (PubMed:18957423). Disrupts PML function and PML-NB formation by inhibiting RANBP2-mediated sumoylation of PML (PubMed:22155184). 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 CTNNB1 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). Ca(2+)-mediated localization to the cell membrane in dental epithelial cells is inhibited via WNT3A (By similarity). Localizes to cell-cell contacts as keratinocyte differentiation progresses (By similarity) {ECO:0000250|UniProtKB:B6V8E6, ECO:0000250|UniProtKB:Q02248, 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).

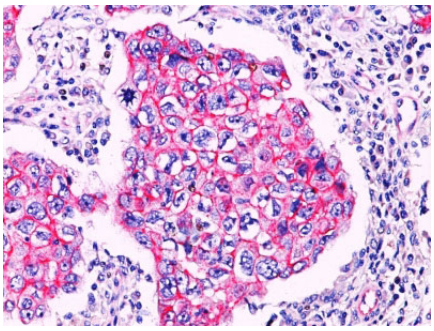
Background

Beta-catenin associates with the cytoplasmic portion of E-cadherin, which is necessary for the function of E-cadherin as an adhesion molecule. In normal tissues, beta-catenin is localized to the membrane of epithelial cells, consistent with its role in the cell adhesion complex. In breast ductal neoplasia, beta-catenin is usually localized in cellular membranes. However, in lobular neoplasia, a marked redistribution of beta-catenin throughout the cytoplasm results in a diffuse cytoplasmic pattern. Immuno-staining of beta-catenin and E-cadherin is helps in the accurate identification of ductal and lobular neoplasms, including a distinction between low-grade ductal carcinoma in situ (DCIS) and lobular carcinoma. Additionally, some rectal and gastric adenocarcinomas demonstrate diffuse cytoplasmic beta-catenin staining and a lack of membranous staining, mimicking the staining pattern observed with lobular breast carcinomas.

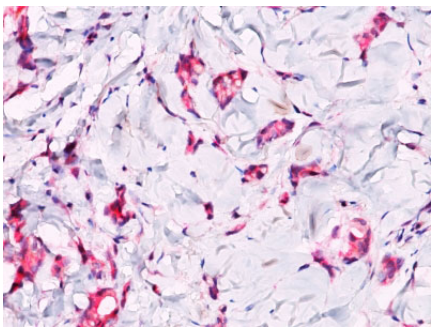
References

Dabbs DJ et. al. Am J Surg Path. 2007;31:427-437. | Sarrio D et. al. Oncogene. 2004;23:3272-3283. | Mastracci TL et. al. Mod Path. 2005;18:741-751

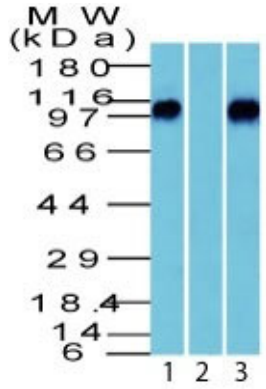
Images



Formalin-fixed, paraffin-embedded human Breast Ductal Carcinoma stained with beta Catenin (p120) Polyclonal Antibody. Note membrane staining in ductal carcinoma.



Formalin-fixed, paraffin-embedded breast lobular carcinoma stained with beta Catenin (p120) Polyclonal Antibody. Note cytoplasmic staining in lobular carcinoma.



Western Blot of beta Catenin (p120) in human brain in 1) absence and 2) presence of immunizing peptide and 3) mouse brain Lysate using beta Catenin (p120) Polyclonal Antibody.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.