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CTNNB1
Purified Mouse Monoclonal Antibody
Catalog # AO2606a

Specification

CTNNB1 - Product Information

Application	**E, WB, IHC**
Primary Accession	P35222
Reactivity	**Human, Mouse**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**Mouse IgG2b**
Calculated MW	**85.5kDa KDa**

Immunogen
Purified recombinant fragment of human CTNNB1 (AA: 1-100) expressed in E. Coli.

Formulation
Purified antibody in PBS with 0.05% sodium azide

CTNNB1 - Additional Information

Gene ID 1499

Other Names
CTNNB; MRD19; armadillo

Dilution
E~~ 1/10000
WB~~ 1/500 - 1/2000
IHC~~ 1/200 - 1/1000

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
CTNNB1 is for research use only and not for use in diagnostic or therapeutic procedures.

CTNNB1 - Protein Information

Name CTNNB1 (HGNC:2514)

Synonyms CTNNB

Function
Key downstream component of the canonical Wnt signaling pathway (PubMed:17524503, PubMed:<a

href="http://www.uniprot.org/citations/18077326" target="_blank">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). 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 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).

CTNNB1 - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

CTNNB1 - Images

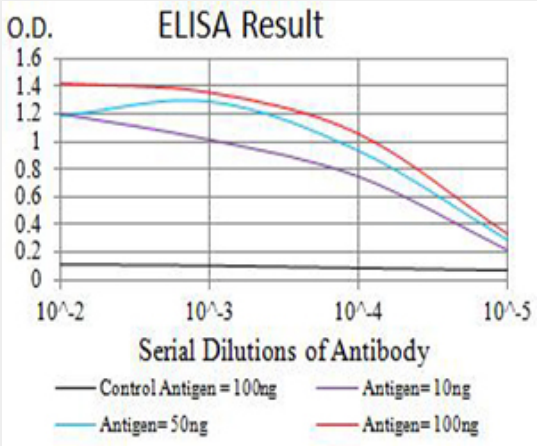

Figure 1:Black line: Control Antigen (100 ng);Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line:Antigen (100 ng)

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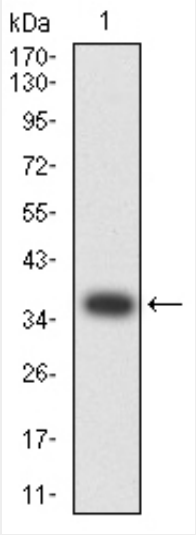

Figure 2:Western blot analysis using CTNNB1 mAb against human CTNNB1 (AA: 1-100) recombinant protein. (Expected MW is 37.1 kDa)

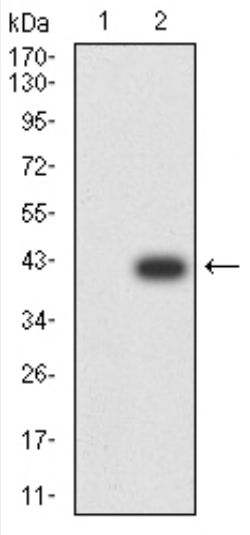

Figure 3:Western blot analysis using CTNNB1 mAb against HEK293 (1) and CTNNB1 (AA: 1-100)-hIgGFc transfected HEK293 (2) cell lysate.

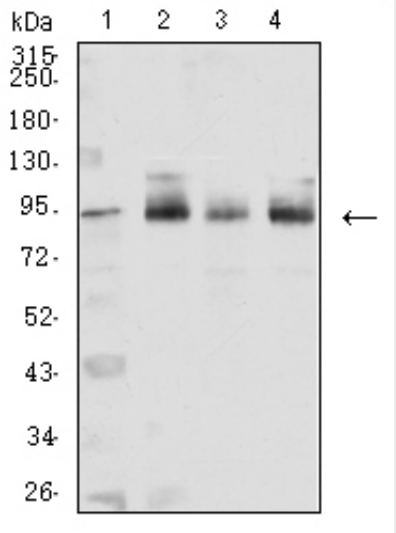

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Figure 4:Western blot analysis using CTNNB1 mouse mAb against Hela (1), SH-SY5Y (2), NIH/3T3 (3), and HEK293(4) cell lysate.

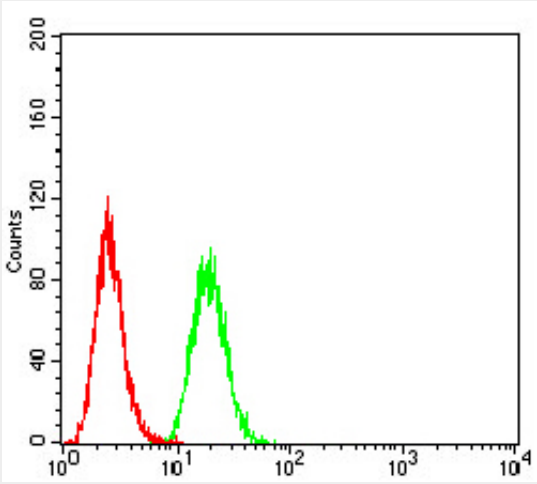

Figure 5:Flow cytometric analysis of Hela cells using CTNNB1 mouse mAb (green) and negative control (red).

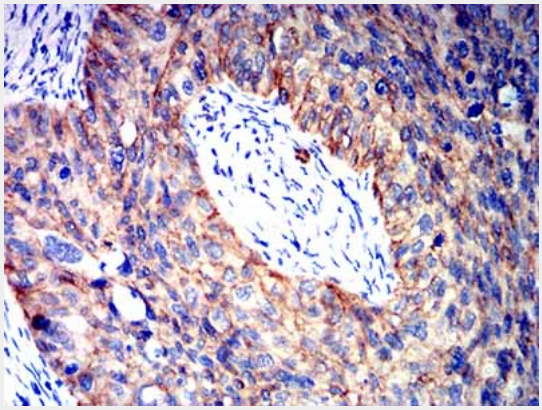

Figure 6:Immunohistochemical analysis of paraffin-embedded cervical cancer tissues using CTNNB1 mouse mAb with DAB staining.

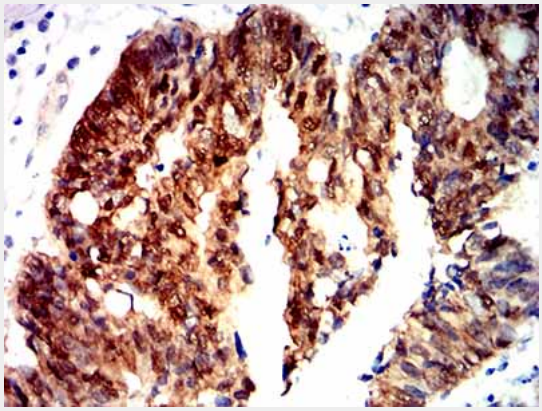

Figure 7:Immunohistochemical analysis of paraffin-embedded rectum cancer tissues using CTNNB1 mouse mAb with DAB staining.

CTNNB1 - References

1.Anticancer Res. 2016 Apr;36(4):1599-604.2.Int J Clin Exp Pathol. 2015 Nov 1;8(11):14989-94.