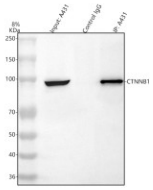
Beta Catenin Polyclonal Antibody / CTNNB1 Antibody (R30312)

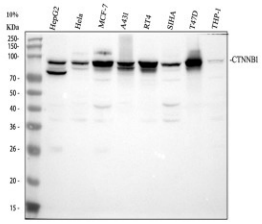
Catalog No.	Formulation	Size
R30312	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

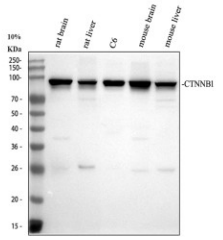
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P35222
Localization	Cell surface, cytoplasmic
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunoprecipitation: 2ug per 500ug of lysate
Limitations	This Beta Catenin Polyclonal Antibody / CTNNB1 Antibody is available for research use only.



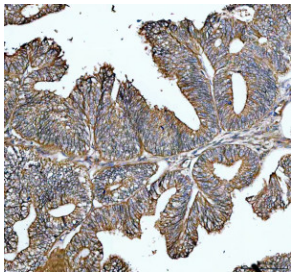
Beta Catenin Polyclonal Antibody by IP in Human A431 Cell Lysate. Immunoprecipitation of CTNNB1 from human A431 whole-cell lysate followed by Western blot analysis. Lane 1 contains 30 ug of A431 input lysate, lane 2 contains a rabbit IgG control immunoprecipitation, and lane 3 contains protein immunoprecipitated from 500 ug of A431 lysate using 2 ug of beta-catenin antibody. The immunoblot was probed with the rabbit polyclonal antibody at 0.5 ug/ml and detected using an HRP-conjugated secondary antibody. A band near 95 kDa is present in the input and antibody immunoprecipitation lanes, demonstrating enrichment of CTNNB1 relative to the control IgG sample.



Beta Catenin Polyclonal Antibody by WB in Eight Human Cell Lines. Western blot analysis of CTNNB1 in human HepG2 (lane 1), HeLa (lane 2), MCF-7 (lane 3), A431 (lane 4), RT4 (lane 5), SiHa (lane 6), T47D (lane 7), and THP-1 (lane 8) whole-cell lysates. Samples containing 30 ug of protein per lane were separated by 10% SDS-PAGE under reducing conditions and transferred to a nitrocellulose membrane. The rabbit polyclonal antibody was used at 0.5 ug/ml, followed by HRP-conjugated secondary antibody and chemiluminescent detection. A prominent band was detected at approximately 95 kDa across the eight samples, compared with the calculated molecular weight of 85.5 kDa for beta-catenin. The observed migration is consistent with the commonly reported apparent molecular weight of this protein.



Beta Catenin Polyclonal Antibody by WB in Rat and Mouse Tissues and Cell Lysates. Western blot analysis of CTNNB1 in rat brain (lane 1), rat liver (lane 2), rat C6 cells (lane 3), mouse brain (lane 4), and mouse liver (lane 5). Each lane contained 30 ug of protein separated by 10% SDS-PAGE under reducing conditions. The rabbit polyclonal antibody was applied at 0.5 ug/ml, followed by HRP-conjugated secondary antibody and chemiluminescent detection. A prominent band was detected near 95 kDa in all five samples, compared with the calculated molecular weight of approximately 85.5 kDa. These results demonstrate detection of beta-catenin in multiple rodent tissues and cells.



Beta Catenin Polyclonal Antibody by IHC in Human Endometrial Carcinoma. Immunohistochemistry staining of formalin-fixed, paraffin-embedded human endometrial carcinoma tissue using rabbit polyclonal CTNNB1 antibody at 2 ug/ml. Heat-induced epitope retrieval was performed using EDTA buffer at pH 8.0, followed by overnight primary antibody incubation at 4oC. Detection was performed using an HRP-conjugated secondary detection system with DAB chromogen. The staining demonstrates beta-catenin expression in the carcinoma tissue, supporting investigation of CTNNB1 distribution in epithelial malignancies.

Description

Beta Catenin Polyclonal Antibody recognizes beta-catenin, a multifunctional protein encoded by the CTNNB1 gene that plays essential roles in cell adhesion, signal transduction, and transcriptional regulation. Also known as catenin beta 1, beta-catenin connects cadherin adhesion complexes to the actin cytoskeleton and functions as a central signaling mediator in the canonical Wnt pathway. These distinct activities allow CTNNB1 to coordinate tissue organization, cellular differentiation, and gene expression.

At the plasma membrane, beta-catenin associates with the cytoplasmic domains of classical cadherins, including E-cadherin. These interactions stabilize adherens junctions and help maintain epithelial integrity. Through its association with alpha-catenin and other junctional proteins, beta-catenin contributes to the organization of cell-cell contacts and the mechanical coordination of neighboring cells. Disruption of these complexes can alter cell polarity, tissue architecture, and cellular migration.

In the absence of Wnt stimulation, cytoplasmic beta-catenin is regulated by a destruction complex containing APC, AXIN, GSK3 beta, and CK1. Sequential phosphorylation promotes recognition by the ubiquitin-proteasome system, maintaining low levels of signaling-competent CTNNB1. Activation of canonical Wnt signaling inhibits this degradation process, allowing beta-catenin to accumulate and enter the nucleus. Nuclear beta-catenin interacts with TCF/LEF transcription factors to regulate genes involved in proliferation, differentiation, and cell fate determination.

Abnormal beta-catenin signaling is implicated in numerous malignancies, particularly colorectal cancer, where mutations affecting APC or CTNNB1 can produce sustained pathway activation. Altered beta-catenin localization and activity are also associated with epithelial-mesenchymal transition, developmental abnormalities, and changes in stem cell behavior. Its dual functions in adhesion and transcription make beta-catenin an important subject in cancer biology, developmental

biology, and cell signaling research.

A Beta Catenin Polyclonal Antibody from NSJ Bioreagents supports investigations of CTNNB1 expression, cadherin-associated adhesion complexes, canonical Wnt signaling, and mechanisms regulating cellular proliferation and differentiation.

This antibody complements our Beta-Catenin Antibody / CTNNB1 Antibody (clone CTNNB1/2030R) for broader analysis of CTNNB1 expression and localization.

Application Notes

Titration of the Beta Catenin Polyclonal Antibody / CTNNB1 Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

Amino acids 764-781 (DGLPPGDSNQLAWFDTDL) were used as the immunogen for this Beta Catenin Polyclonal Antibody (100% homologous in human, mouse and rat).

Storage

After reconstitution, the Beta Catenin Polyclonal Antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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