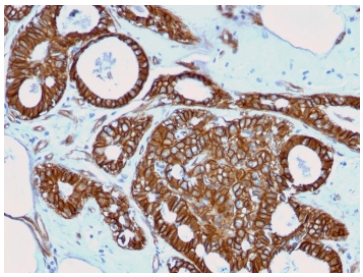
Beta-Catenin Antibody rCTNNB1/2173 / CTNNB1 Transcriptional Activation Marker [clone rCTNNB1/2173] (V3601)

Catalog No.	Formulation	Size
V3601-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3601-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3601SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V3601IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

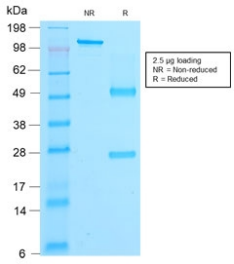
Recombinant MOUSE MONOCLONAL

Bulk quote request

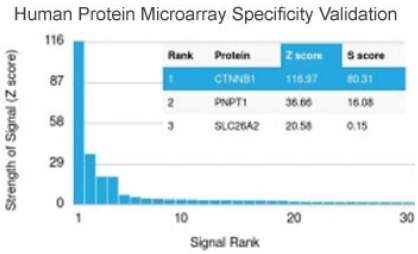
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG1, kappa
Clone Name	rCTNNB1/2173
Purity	Protein G affinity chromatography
UniProt	P35222
Localization	Cell surface, cytoplasmic, cell junctions
Applications	Immunofluorescence: 1-3ug/ml Western blot: 2-4ug/ml Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This Beta-Catenin Antibody rCTNNB1/2173 / CTNNB1 Transcriptional Activation Marker is available for research use only.



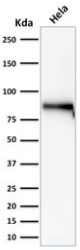
Beta-Catenin Transcriptional Marker Breast Carcinoma IHC. Immunohistochemistry analysis of human breast carcinoma using Beta-Catenin Antibody rCTNNB1/2173 reveals strong cytoplasmic and membranous staining in tumor epithelial cells, consistent with CTNNB1 / Catenin beta-1 localization, with focal regions showing increased intracellular distribution relative to junctional staining. This pattern is consistent with beta-catenin redistribution observed during Wnt pathway activation and transcriptional signaling. Neoplastic glandular structures are well defined, while adjacent stromal components display comparatively low background staining. Hematoxylin counterstain provides clear nuclear contrast and architectural context. HIER: boil FFPE tissue sections in 10 mM Tris with 1 mM EDTA, pH 9, for 10-20 min followed by cooling at RT for 20 min.



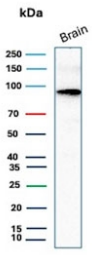
SDS-PAGE analysis of purified, BSA-free recombinant beta Catenin antibody (clone rCTNNB1/2173) as confirmation of integrity and purity.



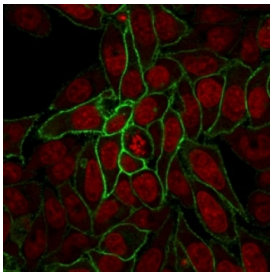
Beta-Catenin Transcriptional Marker Microarray Specificity. Protein microarray analysis using Beta-Catenin Antibody rCTNNB1/2173 demonstrates highly specific binding to CTNNB1 / Catenin beta-1, with the target protein ranked as the top hit and showing a strong Z score relative to all other proteins on the array. Signal intensity drops sharply for non-target proteins, supporting selective recognition with minimal off-target interaction. Z score represents the strength of signal in standard deviations above the mean of all array signals, while S score reflects the separation between the top-ranked target and the next highest signal, indicating relative specificity.



Beta-Catenin Transcriptional Activation Marker HeLa WB. Western blot analysis of human HeLa cell lysate using Beta-Catenin Antibody (clone rCTNNB1/2173) detects a distinct band at approximately 90-95 kDa, consistent with the predicted molecular weight of Catenin beta-1 / CTNNB1 at ~85 kDa with a characteristic upward shift during SDS-PAGE. This migration pattern aligns with phosphorylation-associated mobility changes observed for beta-catenin in signaling-active states. The detected band supports reliable identification of CTNNB1 in cellular contexts associated with Wnt pathway activity.



Beta-Catenin Transcriptional Marker Brain WB. Western blot analysis of human brain tissue lysate using Beta-Catenin Antibody (clone rCTNNB1/2173) detects a band at approximately 90-95 kDa, consistent with the predicted molecular weight of Catenin beta-1 / CTNNB1 at ~85 kDa with a characteristic upward shift during SDS-PAGE. This migration pattern is consistent with phosphorylation states of beta-catenin associated with regulation of its stability and transcriptional activity within the Wnt signaling pathway.



Beta-Catenin Transcriptional Marker HeLa IF. Immunofluorescence analysis of human HeLa cells using Beta-Catenin Antibody (clone rCTNNB1/2173) shows prominent membranous staining outlining cell-cell junctions with additional cytoplasmic signal, consistent with CTNNB1 / Catenin beta-1 localization. Subpopulations of cells display increased intracellular distribution relative to junctional staining, a pattern associated with beta-catenin redistribution during Wnt pathway activation and transcriptional signaling. Reddot nuclear stain (red) highlights nuclei, providing contrast to the beta-catenin signal.

Description

Beta-catenin (CTNNB1) is a central mediator of canonical Wnt signaling, where its nuclear accumulation drives transcriptional activation of genes involved in proliferation, differentiation, and stem cell maintenance. The Beta-Catenin Antibody rCTNNB1/2173 / CTNNB1 Transcriptional Activation Marker is optimized for studies focused on this signaling function, particularly the detection of nuclear beta-catenin as an indicator of pathway activation. CTNNB1, encoded on chromosome 3p22.1, belongs to the armadillo repeat protein family and contains multiple interaction domains that facilitate binding to transcription factors and co-regulators in the nucleus.

Beta-Catenin antibody, also referred to as CTNNB1 antibody and Catenin beta-1 antibody in the literature, recognizes a protein whose nuclear localization is tightly controlled under physiological conditions. In the absence of Wnt signaling, beta-catenin is continuously degraded in the cytoplasm by the destruction complex, preventing nuclear entry. Upon pathway activation, beta-catenin stabilizes and accumulates in the cytoplasm before translocating into the nucleus. There, it forms complexes with TCF/LEF transcription factors, displacing repressors and recruiting co-activators to initiate transcription of Wnt target genes such as MYC and CCND1.

This transcriptional role distinguishes beta-catenin from its structural function at the cell membrane, where it participates in cadherin-mediated adhesion. The Beta-Catenin Antibody / CTNNB1 Transcriptional Activation Marker is particularly useful for identifying cells in which Wnt signaling is active, as evidenced by nuclear staining patterns. Such nuclear localization is frequently observed in stem cell populations, regenerating tissues, and a wide range of cancers, including colorectal carcinoma, hepatocellular carcinoma, and endometrial tumors. Detection of nuclear beta-catenin is therefore a key readout for pathway dysregulation.

The recombinant mouse monoclonal rCTNNB1/2173 antibody supports consistent detection of CTNNB1 in research settings where transcriptional activation is the primary focus. This antibody is suitable for detecting beta-catenin expression in contexts where nuclear localization provides insight into signaling status rather than structural adhesion roles. By emphasizing nuclear accumulation, it enables researchers to distinguish active Wnt signaling from baseline membranous or cytoplasmic expression patterns.

CTNNB1 mutations that prevent phosphorylation-dependent degradation lead to constitutive nuclear accumulation of beta-catenin and persistent transcriptional activation. These alterations are a hallmark of multiple tumor types and contribute to uncontrolled cell proliferation and survival. As such, beta-catenin antibody detection in the nucleus is widely used to assess oncogenic signaling pathways and to study mechanisms of tumor initiation and progression. This Beta-Catenin Antibody / CTNNB1 Transcriptional Activation Marker provides a focused approach for investigating these nuclear signaling events.

This antibody complements broader Beta-Catenin antibody products by offering a specialized tool for studying CTNNB1-driven transcriptional programs and Wnt pathway activation in research applications.

This CTNNB1 antibody is part of a broader selection of Beta-Catenin Antibody / CTNNB1 Antibody products for studying Wnt signaling, transcriptional regulation, and cell adhesion pathways.

Application Notes

Titration of the Beta-Catenin Antibody rCTNNB1/2173 / CTNNB1 Transcriptional Activation Marker may be required due to differences in protocols and secondary/substrate sensitivity.

1. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Chicken beta Catenin protein was used as the immunogen for the recombinant Beta-Catenin Antibody rCTNNB1/2173.

Storage

Store the Beta-Catenin Antibody rCTNNB1/2173 at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

Beta-catenin nuclear antibody, CTNNB1 transcription antibody, Catenin beta-1 nuclear marker antibody, Wnt pathway beta-catenin antibody, Nuclear beta catenin antibody

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