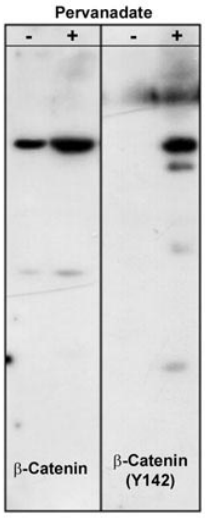
β-Catenin (Tyr-142)[γ-Catenin (Tyr-133)], phospho-specific

Rabbit Polyclonal

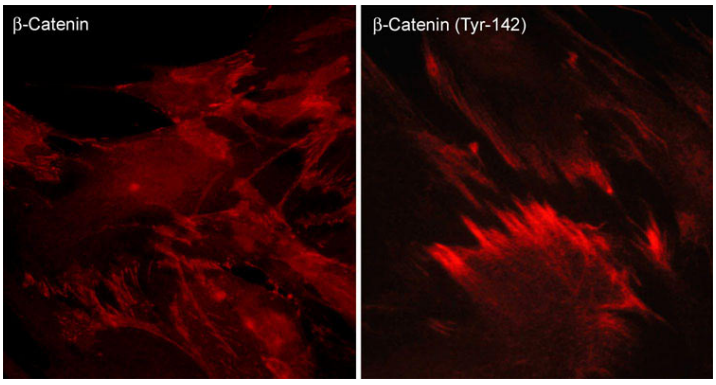
Cat. # CP1081
Size 100 µl

Background

β-Catenin is a 92 kDa protein that binds to the cytoplasmic tail of E-Cadherin. The cadherins, transmembrane adhesion molecules, are found with catenins at adherens junctions. Deletions in the cytoplasmic domain of E-Cadherin eliminate catenin binding and result in a loss of cell adhesion. Tyrosine phosphorylation of β-Catenin can regulate its interaction with critical components of adherens junctions. Both Fer and Fyn kinases phosphorylate tyrosine 142 in vitro. Overexpression of these kinases in epithelial cells disrupts interactions between α- and β-Catenins. The phosphorylation of tyrosine 142 may act as a switch from the transcriptional to the adhesive role of β-Catenin. Src family kinases can also phosphorylate tyrosine 654 in the C-terminal armadillo repeat of β-Catenin. This phosphorylation regulates β-Catenin binding to E-cadherin. Thus, site-specific tyrosine phosphorylation of β-Catenin may regulate specific protein-protein interactions leading to changes in cell adhesion.



Western blot analysis of Hct116 src transformed cells (20 µg/lane) serum starved overnight or treated with pervanadate (1 mM) for 30 min. The blot was probed with anti-β-Catenin or anti-β-Catenin (Tyr -142).



Immunocytochemical labeling of phosphorylated β-Catenin in paraformaldehyde-fixed and NP-40-permeabilized rabbit spleen fibroblasts. The cells were labeled with mouse monoclonal β-Catenin and rabbit polyclonal β-Catenin (Tyr-142) antibodies, then the antibodies were detected using appropriate secondary antibodies conjugated to Cy3.

Background References

Ozawa, M. et al. (1990) Proc. Natl. Acad. Sci. USA 87:4246.
Piedra, J. et al. (2003) Mol. Cell. Biol. 23(7):2287.
Brembeck, F.H. et al. (2004) Genes Dev. 18(18):2225.

Product Citations

Huynh, H. et al. (2019) Int J Oncol. 54(3):1123.
WB: Hepatocellular carcinoma

Kline, A. et al. (2018) Dev Biol. 440(2):99.
ICC: Drosophila ovary

Hamada-Kawaguchi, N et al. (2015) PLoS One. 10(3):e0121484.
ICC: Drosophila ovary

Tsuneki, M. et al. (2014) Mol Cell Biol. 34(24): 4485
IF: mouse EOMA, brain endothelial cells

Qi, F. et al. (2013) Am J Pathol. 183(5):1654.
WB: human mesothelial

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Rev 9/19/2019

β-Catenin (Tyr-142)[γ-Catenin (Tyr-133)], phospho-specific

Rabbit Polyclonal

Cat. # CP1081
Size 100 µl

Immunogen

Uniprot ID: P35222

Phospho-β-Catenin (Tyr-142) synthetic peptide (coupled to KLH) corresponding to amino acid residues around tyrosine 142 of human β-Catenin. This peptide sequence has one amino acid difference from a sequence around tyrosine 133 of human γ-Catenin. These human sequences are highly conserved in rat and mouse β- and γ-Catenins.

Buffer and Storage

Rabbit polyclonal, affinity-purified antibody is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at –20°C. Stable for 1 year.

Applications

WB	1:500
ELISA	1:2000
ICC	1:100

Species Reactivity

Hu, Rt, Ms

End user should determine optimal dilution for their particular applications and experiments.
Western blot membranes were incubated with diluted antibody in 5% non-fat milk, Tris buffer, 0.04% Tween20 for 1 hour at room temperature.
Abbreviations: E = ELISA, ICC = immunocytochemistry, IHC = immunohistochemistry, IP = immunoprecipitation, MS = mass spectrometry, WB = western blot
Hu = Human, Ms = Mouse, Rt = Rat, Ck = Chicken, F = Frog, B = Bovine

Specificity

This antibody was cross-adsorbed to phospho-tyrosine coupled to agarose before affinity purification using phospho-β-Catenin (Tyr-142) peptide (without carrier). The antibody detects a 92kDa* protein corresponding to the molecular mass of β-Catenin on SDS-PAGE immunoblots of Hct116 src-transformed cells treated with pervanadate, but not in control cells. Similar results were observed in pervanadate-treated A431 and human endothelial cells.

*All molecular weights (MW) are confirmed by comparison to MW standards and to western blot mobilities of known proteins with similar MW.
"Native" western blot utilizes non-reducing sample buffer (no mercaptoethanol or SDS), normal SDS-PAGE gel electrophoresis, and no methanol in transfer buffers.

Related Products

CP1191 β-Catenin (Tyr-86), phospho-specific Rabbit Polyclonal

CP1061 β-Catenin (N-terminal) Rabbit Polyclonal

CM1181 β-Catenin Mouse Monoclonal

CK6120 β-Catenin Phospho-Regulation Antibody Sampler Kit

CK6230 δ1-Catenin Phospho-Regulation Antibody Sampler Kit

CK7610 β-Catenin Tyr-142 & Tyr-654 Phosphorylation Immunocytochemistry Kit

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Rev 9/19/2019