γ-Catenin (Tyr-550), phospho-specific

Rabbit Polyclonal

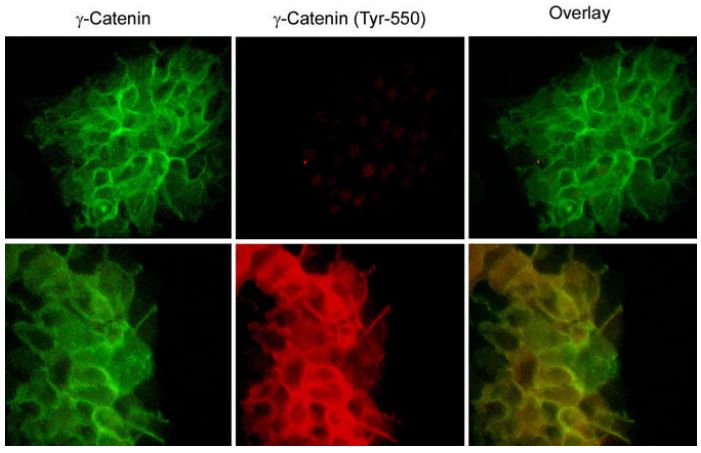
Cat. # CP1121
Size 100 µl

Background

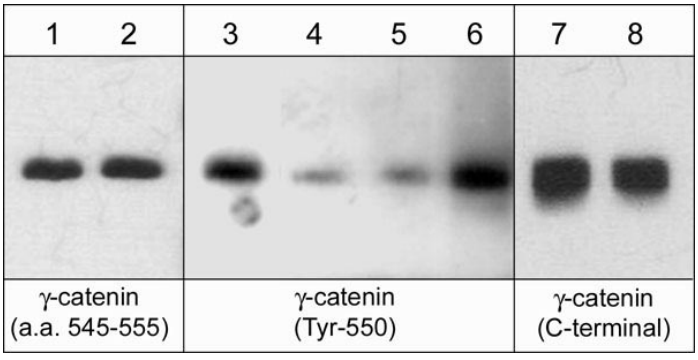
Plakoglobin (γ-Catenin) is a catenin family member identified as a component of desmosomes. γ-Catenin has high homology to β-catenin and, like β-catenin, it can associate with the cadherins, E-cadherin and N-cadherin. One molecule of α-catenin and at least one molecule of β-catenin and γ-Catenin simultaneously bind to a single cadherin molecule. A 19-amino acid sequence of desmoglein was found to be critical for binding of γ-Catenin. Similar catenin-binding domains found in cadherins, suggest a common mechanism for γ-Catenin localization to both adherens junctions and desmosomes. Phosphorylation of tyrosine residues in γ-Catenin can modify its interactions with other proteins. Phosphorylation of tyrosine 644 decreases γ-Catenin association with α-catenin, but increases binding to desmoplakin. Fer kinase can phosphorylate tyrosine 550, which increases γ-Catenin binding to α-catenin. Thus, tyrosine phosphorylation may be important for regulation of γ-Catenin protein-protein interactions within desmosomal complexes.

Background References

McCrea, P.D. et al. (1991) Science 254:1359.
Miravet, S. et al. (2003) Mol. Cell. Biol. 23(20) :7391.



Immunocytochemical labeling of phosphorylated γ-Catenin in control (Top) and pervanadate-treated (Bottom) A431 cells. The cells were co-labeled with mouse monoclonal γ-Catenin (CM1111) or rabbit polyclonal γ-Catenin (Tyr-550) antibodies, then the antibodies were detected using appropriate secondary antibodies conjugated to Cy2 or Cy3.



Western blot analysis of anti-γ-Catenin (C-terminal) immunoprecipitates from pervanadate-treated A431. The immunoprecipitates were untreated (lanes 1,3,7) or treated with alkaline phosphatase (lanes 2,4,8). The blots were probed with γ-Catenin (a.a. 545-555), γ-Catenin (Tyr-550) or γ-Catenin (C-terminal) antibodies. The anti-γ-Catenin (Tyr-550) was used in the presence of γ-Catenin (Tyr-550) (lane 5) or γ-Catenin (Tyr-644) (lane 6) peptides.

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Immunogen

Uniprot ID: P14923

Phospho-γ-Catenin (Tyr-550) synthetic peptide (coupled to KLH) corresponding to amino acid residues around tyrosine 550 of human γ-Catenin. This peptide sequence is highly conserved in rat and mouse γ-Catenin.

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	1:1000
ELISA	1:2000
ICC	1:50

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 both phospho-tyrosine coupled to agarose and to dephosphorylated γ-Catenin (Tyr-550) peptide before affinity purification using phospho-γ-Catenin (Tyr-550) peptide (without carrier). The antibody detects an 84kDa* protein corresponding to the molecular mass of γ-Catenin on SDS-PAGE immunoblots of A431 and Hct116 src transformed cells treated with pervanadate (1 mM for 30 min), but not in control 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

CM1111 γ-Catenin (C-terminal) Mouse Monoclonal

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

CP1081 β-Catenin (Tyr-142)[γ-Catenin (Tyr-133)], phospho-specific Rabbit Polyclonal

CK6150 γ-Catenin Phospho-Regulation Antibody Sampler Kit

CK6120 β-Catenin Phospho-Regulation Antibody Sampler Kit

CK6230 δ1-Catenin Phospho-Regulation Antibody Sampler Kit

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