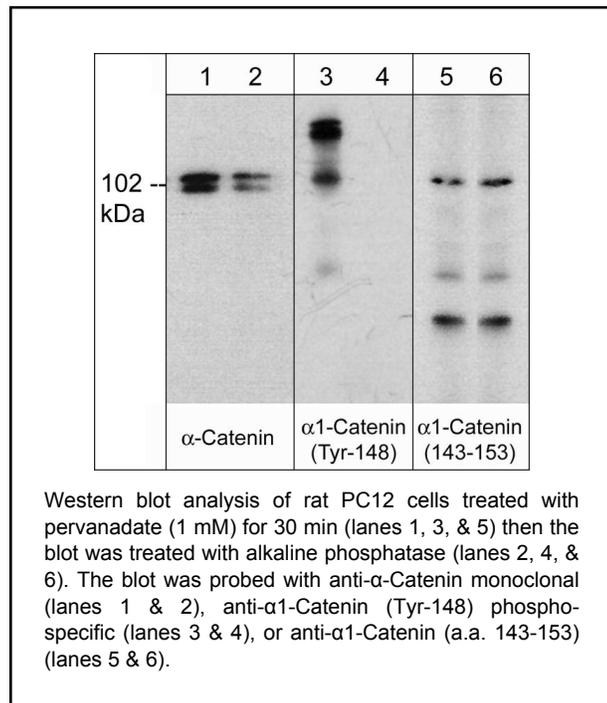


Background

α -catenins are cadherin interacting proteins with homology to vinculin. Three α -catenin genes have been described including α 1-catenin (α E-Catenin), α 2-catenin (α N-catenin), and α 3-catenin (α T-catenin). α 1-catenin has 81% homology with α 2-catenin and 60% homology with α 3-catenin. These α -catenin isoforms may have similar roles since each binds cadherins. However, their expression patterns are both overlapping and distinct. α 1-catenin was identified in epithelial cells, and is expressed in various cell types. α 2-catenin is enriched in the nervous system, and α 3-catenin is expressed highest in testis and heart. Phosphorylation may regulate the activity of α 1-catenin, since tyrosine phosphorylation of Tyr-148 occurs during intercellular adhesion. This site is dephosphorylated by SHP2, which inhibits α 1-catenin binding to β -catenin and translocation to the plasma membrane. Phosphorylation of α 1-catenin at Tyr-148 may be important for inhibition of cell transformation, and dephosphorylation of this site may be important during SHP2-mediated cell transformation.

Background References

Herrenknecht, K. et al. (1991) Proc Natl Acad Sci U S A. 88(20):9156.
 Hirano, S. et al. (1992) Cell. 70(2):293.
 Janssens, B. et al. (2001) J Cell Sci. 114(17):3177.



Applications

WB 1:1000
 ELISA 1:2000

Species Reactivity

Hu, Rt, Ms, Ck

Specificity

This antibody was cross-adsorbed to unrelated phospho-tyrosine peptide before affinity purification using phospho- α 1-Catenin (Tyr-148) peptide (without carrier). The antibody detects a 102 kDa* protein corresponding to the molecular mass of α 1-Catenin on SDS-PAGE immunoblots of rat PC12 cells treated with pervanadate.

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, PBS, 0.04% Tween20 for 1 hour at room temperature.

*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

Immunogen

Uniprot ID: P35221

Phospho- α 1-Catenin (Tyr-148) synthetic peptide (coupled to KLH) corresponding to amino acid residues around tyrosine 148 in human α 1-Catenin. This peptide sequence is highly conserved in rat and mouse α 1-Catenin, but is not conserved in α 2-Catenin or α 3-Catenin.

Buffer and Storage

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

Related Products

CP3431 α 1-Catenin (a.a. 143-153) Rabbit Polyclonal
 CX3455 phospho- α 1-Catenin (Tyr-148) Blocking Peptide
 CP1081 β -Catenin (Tyr-142)[γ -Catenin (Tyr-133)], phospho-specific Rabbit
 CK6120 β -Catenin Phospho-Regulation Antibody Sampler Kit
 CP1121 γ -Catenin (Tyr-550), phospho-specific Rabbit Polyclonal

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