

# $\alpha$ 1-Catenin (a.a. 143-153)

Cat. # CP3431

Host Rabbit Polyclonal

Size 100  $\mu$ l

## Background:

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

## 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.  
 Burks, J. & Agazie, Y.M. (2006) Oncogene 25:7166.

## Immunogen:

$\alpha$ 1-Catenin synthetic peptide (coupled to KLH) corresponding to amino acid residues 143 to 153 in human  $\alpha$ 1-Catenin. This peptide sequence is highly conserved in rat and mouse  $\alpha$ 1-Catenin, and has some homology to  $\alpha$ 2-Catenin or  $\alpha$ 3-Catenin.

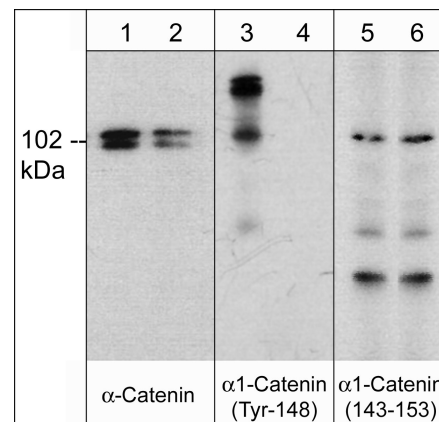
## Applications:

WB 1:1000  
 ELISA 1:2000

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.

## Related Products:

- CP3451  $\alpha$ 1-Catenin (Tyr-148), phospho-specific Rabbit Polyclonal  
 CX3435  $\alpha$ 1-Catenin (a.a. 143-153) Peptide  
 CK6120  $\beta$ -Catenin Phospho-Regulation Antibody Sampler Kit  
 CK6150  $\gamma$ -Catenin Phospho-Regulation Antibody Sampler Kit  
 CP1081  $\beta$ -Catenin (Tyr-142), phospho-specific [Conserved site] Rabbit Polyclonal  
 CP1191  $\beta$ -Catenin (Tyr-86), phospho-specific Rabbit Polyclonal



Western blot analysis of rat PC12 cells treated with pervanadate (1 mM) for 30 min (lanes 1, 3, & 5) then the blot was treated with alkaline phosphatase (lanes 2, 4, & 6). The blot was probed with anti- $\alpha$ -Catenin monoclonal (lanes 1 & 2), anti- $\alpha$ 1-Catenin (Tyr-148) phospho-specific (lanes 3 & 4), or anti- $\alpha$ 1-Catenin (a.a. 143-153) (lanes 5 & 6).

## Buffer and Storage:

Rabbit polyclonal, affinity-purified antibody is supplied in 100 $\mu$ l phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at  $-20^{\circ}$ C. Do not aliquot. Stable for 1 year.

## Specificity:

This antibody was affinity purified using  $\alpha$ 1-Catenin (a.a. 143-153) peptide (without carrier). The antibody detects a 102 kDa\* protein corresponding to the molecular mass of  $\alpha$ 1-Catenin on SDS-PAGE immunoblots of rat PC12 and mouse SYF cells.

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

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