

Technical Data Sheet

Purified Mouse Anti- α -Catenin

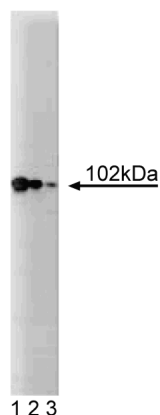
Product Information

Material Number:	610193
Size:	50 μ g
Concentration:	250 μ g/ml
Clone:	5/a-Catenin
Immunogen:	Mouse α -Catenin aa. 729-906
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human Tested in Development: Chicken, Dog, Mouse, Rat
Target MW:	102 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and $\leq 0.09\%$ sodium azide.

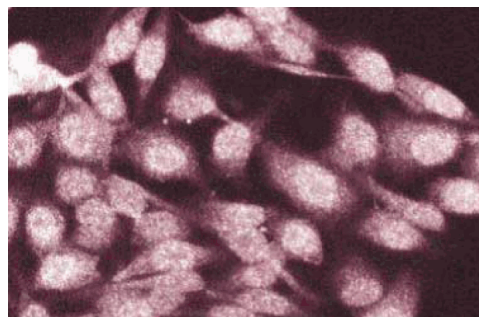
Description

The catenins (α -, β -, and γ -) are cytoplasmic proteins that bind to the highly conserved cytoplasmic tail of E-Cadherin. The cadherins, transmembrane adhesion molecules, are found with catenins at adherens junctions (zonula adherens). These junctions are critical for cell-cell adhesion, signal transmission between neighboring cells, and for the anchoring of the actin cytoskeleton. α -Catenin (CAP102) shows homology to vinculin, while β -Catenin is similar to plakoglobin or the Drosophila armadillo gene product. α -Catenin was identified as an E-Cadherin-associated protein, however, it also appears to interact with other cadherin family members. There are at least two subtypes of α -Catenin: α E-Catenin and α N-Catenin. The predominant form is known as α E-Catenin. It is ubiquitously expressed, but at low levels in the nervous system. The expression of α N-Catenin is more restricted and this form predominates in the brain. Increased tyrosine phosphorylation of adherens junction proteins can disrupt catenin-cadherin complexes, leading to changes in cell adhesion properties. It has been noted that down-regulation of this group of proteins often precedes metastasis. In fact, data suggests a correlation between deletions within the α -Catenin gene and the development of prostate cancer.

This antibody is routinely tested by western blot analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.



Western blot analysis of α -Catenin on a human endothelial cell lysate. Lane 1: 1:250, lane 2: 1:500, lane 3: 1:1000 dilution of the anti- α -Catenin antibody.



Immunofluorescence staining of HeLa cells.

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Store undiluted at -20° C.

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Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development
Immunoprecipitation	Not Recommended
Immunohistochemistry	Not Recommended

Suggested Companion Products

Catalog Number	Name	Size	Clone
611450	Human Endothelial Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Igs	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Igs	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Baki L, Marambaud P, Efthimiopoulos S, et al. Presenilin-1 binds cytoplasmic epithelial cadherin, inhibits cadherin/p120 association, and regulates stability and function of the cadherin/catenin adhesion complex. *Proc Natl Acad Sci U S A*. 2001; 98(5):2381-2386.(Biology: Immunoprecipitation, Western blot)

Giannini AL, Vivanco M, Kypta RM. alpha-catenin inhibits beta-catenin signaling by preventing formation of a beta-catenin* T-cell factor* DNA complex. *J Biol Chem*. 2000; 275(29):21883-21888.(Biology: Immunofluorescence)

Herrenknecht K, Ozawa M, Eckerskorn C, Lottspeich F, Lenter M, Kemler R. The uvomorulin-anchorage protein alpha catenin is a vinculin homologue. *Proc Natl Acad Sci U S A*. 1991; 88(20):9156-9160.(Biology)

Hirano S, Kimoto N, Shimoyama Y, Hirohashi S, Takeichi M. Identification of a neural alpha-catenin as a key regulator of cadherin function and multicellular organization. *Cell*. 1992; 70(2):293-301.(Biology)

Huan Y, van Adelsberg J. Polycystin-1, the PKD1 gene product, is in a complex containing E-cadherin and the catenins. *J Clin Invest*. 1999; 104(10):1459-1468. (Biology: Immunohistochemistry, Western blot)