

## Product Information

### Anti-p120<sup>ctn</sup>

Developed in Rabbit  
IgG Fraction of Antiserum

Product Number **P 1870**

### Product Description

Anti-p120<sup>ctn</sup> is developed in rabbit using a synthetic peptide corresponding to the sequence located near the C-terminus of human p120<sup>ctn</sup> (isoform 1B, amino acids 881-900), conjugated to KLH as immunogen. This p120<sup>ctn</sup> sequence is identical in mouse p120<sup>ctn</sup> and in isoforms 1, 2, 3, and 4 of human p120<sup>ctn</sup>. Whole antiserum is fractionated and then further purified by ion-exchange chromatography to provide the IgG fraction of antiserum that is essentially free of other rabbit serum proteins.

Anti-p120<sup>ctn</sup> recognizes p120<sup>ctn</sup> (120 kDa). Applications include the detection of p120<sup>ctn</sup> by immunoblotting and immunofluorescence. Staining of p120<sup>ctn</sup> in immunoblotting is specifically inhibited with the p120<sup>ctn</sup> immunizing peptide (human, amino acids 881-900).

Cell adhesion is a highly regulated cellular process of vital importance during development and in the adult organism, necessary for sorting of cells, induction of cellular morphogenesis, and maintenance of tissue integrity.<sup>1,2</sup> Aberrant adhesion properties of cancer cells are likely to contribute to tumorigenesis, invasion, and metastasis.

Catenins are a family of cytoplasmic proteins that bind to the cytoplasmic domain of cadherins, which are transmembrane glycoproteins involved in Ca<sup>2+</sup>-dependent cell-cell adhesion.<sup>3</sup> Formation of the cadherin/catenin complex is required for cadherin functions in cell-cell adhesion, signal transduction, as well as in the initiation and maintenance of structural and functional organization of cells and tissues. Catenins mediate the connection of cadherins to actin filaments and are part of a higher order submembrane network by which cadherins are linked to other transmembrane and peripheral cytoplasmic proteins. Other cytoplasmic proteins (fodrin, src, and yes kinases) also interact with the cadherin/catenin complex.<sup>4</sup> These interactions may link the cadherin/catenin complex with the cytoskeleton and intracellular signaling pathways.

Several catenins have been identified, including  $\alpha$ -catenin (102-105 kDa),  $\beta$ -catenin (92-97 kDa), and  $\gamma$ -catenin/plakoglobin (82-86 kDa). The 120 kDa catenin-related protein p120<sup>ctn</sup> (also known as catenin p120<sup>ctn</sup>, p120<sup>cas</sup>, and pp120 src substrate), was originally described as a prominent substrate for the Src oncoprotein and a variety of receptor tyrosine kinases (RTKs) including those for epidermal growth factor (EGF), platelet derived growth factor (PDGF), and colony stimulating factor-1 (CSF-1). At least 8 alternatively spliced p120<sup>ctn</sup> isoforms are generated and differentially expressed in different cell types.<sup>5</sup> p120<sup>ctn</sup> contains a central armadillo repeat domain (ARM domain) and is structurally similar to  $\beta$ -catenin and  $\gamma$ -catenin. Like  $\beta$ -catenin and  $\gamma$ -catenin, p120<sup>ctn</sup> binds directly to the cytoplasmic domain of the epithelial E-cadherin via the ARM domain and co-precipitates in multiprotein complexes containing E-cadherin or other cadherins such as neural (N)- or placental (P)- cadherins, depending on the cell type.<sup>3</sup> However, unlike  $\beta$ -catenin and  $\gamma$ -catenin, p120<sup>ctn</sup> does not appear to bind  $\alpha$ -catenin.

### Reagent

Anti-p120<sup>ctn</sup> is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 0.02 15 mM sodium azide.

### Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

### Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at -20 °C. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

### Product Profile

For immunoblotting, a minimum working antibody dilution of 1:2,000 is recommended using rat brain extract and human endothelial ECV304 whole cell extract.

For indirect immunofluorescence, a minimum working antibody dilution of 1:500 is recommended using the human epidermoid carcinoma A431 cell line.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

### References

1. Edelman, G.M., and Crossin, K.L., Ann. Rev. Biochem., **60**, 155-190 (1991).
2. Takeichi, M., Science, **251**, 1451-1455 (1991).
3. Reynolds, A.B., and Daniel, J.M., In: Cytoskeletal Membrane Interactions and Signal Transduction, pp. 31-48, eds: Cowin, P., and Klymkowsky, M.W., Landes Company and Chapman & Hall, Austin, TX (1997).
4. Tsukita, S., et al., J. Cell Biol., **123**, 1049-1053 (1993).
5. Mo, Y.Y., and Reynolds, A.B., Cancer Res., **56**, 633-2640 (1996).

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