



**Qty:** 100 µg/200 µl

Mouse anti-Plakoglobin  
(γ-Catenin)

**Catalog No.** 13-8500

**Lot No.**

## Mouse anti-Plakoglobin (γ-Catenin)

### FORM

This monoclonal antibody is supplied as a 200 µl aliquot at a concentration of 0.5 mg/ml in phosphate buffered saline, pH 7.4, containing 0.1% sodium azide. The antibody is highly purified from mouse ascites by protein A-affinity chromatography.

**CLONE:** PG-11E4      **ISOTYPE:** IgG<sub>1</sub>-kappa

### IMMUNOGEN

Fusion protein consisting of the maltose binding protein fused to full length human plakoglobin protein.

**SPECIES REACTIVITY:** Human & mouse.

**TISSUES/LYSATES TESTED:** HeLa cells, A431 cells, WI-38 human fibroblasts.

### SPECIFICITY<sup>(7)</sup>

The antibody is specific for plakoglobin (~ 83 kDa) and does not appear to cross react with the related β-catenin protein (~92 kDa). The immuno-reactive epitope has been localized to a site between amino acids 45-114 of the human plakoglobin protein.

### USAGE

The dilutions below are only starting recommendations. Optimal concentrations of this antibody should be determined by the investigator for each specific application.

**Western Blotting:** 1 µg/ml  
**Immunofluorescence<sup>(16)</sup>:** 10 µg/ml  
**Immunoprecipitation\*:** 2-4 µg (for co-immunoprecipitation conditions see reference 7 )

\*Antibody can be utilized to co-immunoprecipitate plakoglobin in a complex with the desmosomal cadherins desmoglein (Dsg1) and desmocollin (Dsc3a), as well as with E-cadherin.

### STORAGE

Store at 2-8°C for up to one month. Store at -20°C for long term storage. Avoid repeated freezing and thawing.

(cont'd)

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**BACKGROUND**

Plakoglobin ( $\gamma$ -catenin) is an 83 kDa protein that localizes to the cytoplasmic face of both desmosomal and adherens junctions.<sup>(4)</sup> Plakoglobin was first demonstrated to associate with the desmosomal cadherins, desmoglein and desmocollin, and was subsequently shown to associate with the classical cadherins E- and N-cadherin.<sup>(3,4,7,8,9,15)</sup> Plakoglobin's interaction with E- and N-cadherin lead to its identification as the ~80 kDa protein originally called  $\gamma$ -catenin.<sup>(6)</sup> Recent evidence indicates that the classical and desmosomal cadherins actually interact with distinct domains of the plakoglobin protein.<sup>(15)</sup> Further, the desmosomal cadherins have been shown to regulate the accumulation of plakoglobin in the cell by decreasing its turnover rate.<sup>(7)</sup> Plakoglobin ( $\gamma$ -catenin) is highly homologous to both  $\beta$ -catenin and the product of the *Drosophila* segment polarity gene armadillo.<sup>(8,9,10,11,12)</sup> The Armadillo protein is part of a multiprotein junctional complex and is a required component of the *Drosophila wingless* (vertebrate Wnt-1) signal transduction pathway.<sup>(2,10,12)</sup> Plakoglobin ( $\gamma$ -catenin) and  $\beta$ -catenin contain 13 copies of a 42-44 amino acid motif first identified in the Armadillo protein and referred to as armadillo repeats.<sup>(2,10,12)</sup> These armadillo repeats not only mediate the interaction between  $\beta$  and  $\gamma$ -catenin and the cadherin cytoplasmic domain, but are also responsible for interactions with other cellular proteins.<sup>(1,2,13,14)</sup>

**REFERENCES**

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**RELATED PRODUCTS**

<b>Product</b>	<b>Clone/PAD</b>	<b>Cat. No.</b>
Ms x $\beta$ -Catenin	CAT-5H10	13-8400
Ms x $\beta$ -Catenin (CT)	CAT-15	71-2700
Ms x $\alpha$ -Catenin	$\alpha$ CAT-7A4	13-9700
Rb x $\alpha$ -Catenin	ZER2	71-1200
Ms x p120ctn (NT)	15D3	33-9600
Ms x p120ctn (CT)	6H11	33-9700
Ms x E-Cadherin	4A2C7	33-4000
Rb x pan-Cadherin	ZyPC7	71-7100
<b>Product</b>	<b>Conjugate</b>	<b>Cat. No.</b>
Goat anti-Mouse IgG (H+L) (ZyMAX™ Grade)	Purified	81-6500
	FITC	81-6511
	TRITC	81-6514
	Cy™3	81-6515
	Cy™5	81-6516
	HRP	81-6520
	AP	81-6522
	Biotin	81-6540
Protein A	Sepharose® 4B	10-1041
rec-Protein G	Sepharose® 4B	10-1241

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