



**MONOCLONAL ANTIBODY**

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**Catalog No. PRPG-LA4-M01**

# Anti- laminin $\alpha$ 4 chain (652C4)

## BACKGROUND

Laminins, a family of extracellular matrix glycoproteins, are the major noncollagenous constituents of basement membranes. They have been implicated in a wide variety of biological processes including cell adhesion, differentiation, migration, signaling, neurite outgrowth and metastasis. Laminins are heterotrimers composed of 3 non-identical chains denoted  $\alpha$ ,  $\beta$ , and  $\gamma$ , and assuming a cruciform structure with 3 short arms, each formed by a different chain, and a long arm composed of all 3 chains. Each laminin chain is a multidomain protein encoded by a distinct gene and in some cases undergoing alternative splicing to give rise to separate chain variants. Laminin 4 chain-like glycoproteins have been disclosed, but the full-length nature of these products is not known. \*

<b>Product type</b>	Primary antibodies
<b>Immunogen</b>	Recombinant $\alpha$ 4 laminin chain
<b>Raised in</b>	Mouse
<b>Myeloma</b>	-
<b>Clone number</b>	652C4
<b>Isotype</b>	IgG1
<b>Host</b>	-
<b>Source</b>	Hybridoma cell culture
<b>Purification</b>	-
<b>Form</b>	Liquid
<b>Storage buffer</b>	Supernatant supplemented with 0.05% NaN <sub>3</sub>
<b>Concentration</b>	ND
<b>Volume</b>	2 mL
<b>Label</b>	Unlabeled
<b>Specificity</b>	Laminin $\alpha$ 4 chain
<b>Cross reactivity</b>	Human Other species have not been tested.
<b>Storage</b>	Store at 4°C for short-term storage and -20°C for prolonged storage Aliquot to avoid cycles of freeze / thaw.
<b>Other</b>	<b>Data Link</b> : UniProtKB/Swiss-Prot <a href="#">Q16363 (LAMA4_HUMAN)</a>

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<b>Application notes</b>	IHC (frozen sections), IP
<b>Recommended dilutions</b>	<ul style="list-style-type: none"><li>• Immunohistochemistry, 1/25 - 1/75 (paraffin-embedded) **</li><li>• Immunoprecipitation, 1/10 - 1/50</li></ul> **<Staining Pattern> Stains basement membrane of a variety of organs and tissue and is particularly abundant in the vasculature.
	Other applications have not been tested. Optimal dilutions/concentrations should be determined by the end user.
<b>References</b>	Spessotto, P., Yin, Z., Magro, G., Deutzmann, R., Chiu, A., Colombatti, A., Perris, R. 2001. Laminin isoforms 8 and 10 are primary components of the subendothelial basement membrane promoting interaction with neoplastic lymphocytes. <i>Cancer Res.</i> 61, 339-347

**\* < BACKGROUND : laminin  $\alpha$ 4 chain >**

Laminins, a family of extracellular matrix glycoproteins, are the major noncollagenous constituents of basement membranes. They have been implicated in a wide variety of biological processes including cell adhesion, differentiation, migration, signaling, neurite outgrowth and metastasis. Laminins are heterotrimers composed of 3 non-identical chains denoted  $\alpha$ ,  $\beta$ , and  $\gamma$ , and assuming a cruciform structure with 3 short arms, each formed by a different chain, and a long arm composed of all 3 chains. Each laminin chain is a multidomain protein encoded by a distinct gene and in some cases undergoing alternative splicing to give rise to separate chain variants. Different  $\alpha$ ,  $\beta$ , and  $\gamma$  chain isomers assemble in specific combinations to give rise to different heterotrimeric laminin isoforms which are designated by Arabic numerals in the order of their discovery, i.e. 1 1 1 heterotrimer is Laminin-1. The biological functions of the different chains and trimer molecules are only partly known, but some of the chains seems to be more crucial than other during embryonic development and some are associated with human inherited and acquired diseases. Basement membranes of the human body often contain multiple laminin isoforms implying that different laminin chains differ with respect to their tissue distribution. This variation is believed to reflect diverse functions of the chains and the isoforms that they generate. The LAMA4 gene encodes the 4 laminin chain with a domain structure similar to that of the 3, both of which resemble truncated versions of 1, 2, and 5 with a loss of approximately 1,200 residues at the N-terminus (domains IV, V and VI). Laminin, 4 contains the C-terminal G domain which distinguishes all chains from the  $\alpha$  and  $\beta$  chains. Transcript analyses in adult and fetal tissues reveal a developmental regulation of expression of the 4 chain, but the exact function of laminin isoforms composed of this chains are still poorly known. Laminin-8 and -9 are known to be strongly associated with vascular structures and have been proposed to be implicated in intra- and extravasation phenomena. Because of their endothelial expression they are also believed to be important during angiogenesis and several tumour types up-regulate the LAMA4 gene. Tissue-specific utilization of alternative polyA-signal has been described in the literature along with alternative splicing involving the first intron in the 5' UTR. Laminin 4 chain-like glycoproteins have been disclosed, but the full-length nature of these products is not known..

**RELATED PRODUCTS:**

Product Name	Maker	Cat#
Anti Aggrecan (6F4) Monoclonal Antibody	CAC	PRPG-AG-M01
Anti Aggrecan (5D3) Monoclonal Antibody	CAC	PRPG-AG-M02
Anti Aggrecan (5G2) Monoclonal Antibody	CAC	PRPG-AG-M03
Anti Aggrecan (7B7) Monoclonal Antibody	CAC	PRPG-AG-M04
Anti Versican/CSPG2 (5C12) Monoclonal Antibody	CAC	PRPG-VS-M01
Anti Versican/CSPG2 (4C5) Monoclonal Antibody	CAC	PRPG-VS-M02
Anti NG2 / CSPG4 (2164H5) Monoclonal Antibody	CAC	PRPG-NG-M01
Anti COMP (484D1) Monoclonal Antibody	CAC	PRPG-CP-M01
Anti COMP (490D11) Monoclonal Antibody	CAC	PRPG-CP-M02
Anti Keratan sulfate (373E1) Monoclonal Antibody	CAC	PRPG-KS-M01
Anti Decorin (889C7) Monoclonal Antibody	CAC	PRPG-DC-M01
Anti Fibromodulin (636B12) Monoclonal Antibody	CAC	PRPG-FBM-M01
Anti Biglycan (905A7) Monoclonal Antibody	CAC	PRPG-BG-M01
Anti XTP1 (2191H1) Monoclonal Antibody	CAC	PRPG-XTP-M01
Anti SDP35 (2200D12) Monoclonal Antibody	CAC	PRPG-SDP-M01
Anti Laminin $\alpha$ 4 (652C4) Monoclonal Antibody	CAC	PRPG-LA4-M01
Anti Collagen 12 (378D5) Monoclonal Antibody	CAC	PRPG-CO12-M01

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