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LAMB1 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1236a

Product Information

Application	WB, IHC, E
Primary Accession	P07942
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	2D9G5
Isotype	IgG2a
Calculated MW	198038
Description	LAMB1: laminin, beta 1. Laminins, a family of extracellular matrix glycoproteins, are the major noncollagenous constituent 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 composed of 3 non identical chains: laminin alpha, beta and gamma (formerly A, B1, and B2, respectively) and they form a cruciform structure consisting of 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. Several isoforms of each chain have been described. Different alpha, beta and gamma chain isomers combine to give rise to different heterotrimeric laminin isoforms which are designated by Arabic numerals in the order of their discovery, i.e. alpha1beta1gamma1 heterotrimer is laminin 1. The biological functions of the different chains and trimer molecules are largely unknown, but some of the chains have been shown to differ with respect to their tissue distribution, presumably reflecting diverse functions in vivo. This gene encodes the beta chain isoform laminin, beta 1. The beta 1 chain has 7 structurally distinct domains which it shares with other beta chain isomers. The C-terminal helical region containing domains I and II are separated by domain alpha, domains III and V contain several EGF-like repeats, and domains IV and VI have a globular conformation. Laminin, beta 1 is expressed in most tissues that produce basement membranes, and is one of the 3 chains constituting laminin 1, the first laminin isolated from Engelbreth-Holm-Swarm (EHS) tumor. A sequence in the beta 1 chain that is involved in cell attachment, chemotaxis, and binding to the laminin receptor was identified and shown to have the capacity to inhibit metastasis.
Immunogen	Purified recombinant fragment of LAMB1 (aa31-270) expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	3912
Other Names	Laminin subunit beta-1, Laminin B1 chain, Laminin-1 subunit beta, Laminin-10 subunit beta, Laminin-12 subunit beta, Laminin-2 subunit beta, Laminin-6 subunit beta, Laminin-8 subunit beta, LAMB1
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	LAMB1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	LAMB1
Function	Binding to cells via a high affinity receptor, laminin is thought to mediate the attachment, migration and organization of cells into tissues during embryonic development by interacting with other extracellular matrix components. Involved in the organization of the laminar architecture of the cerebral cortex (PubMed:23472759). It is probably required for the integrity of the basement membrane/glia limitans that serves as an anchor point for the endfeet of radial glial cells and as a physical barrier to migrating neurons (By similarity). Radial glial cells play a central role in cerebral cortical development, where they act both as the proliferative unit of the cerebral cortex and a scaffold for neurons migrating toward the pial surface (By similarity). As a subunit of laminin-1 (also known as laminin-111 or EHS laminin), it is involved in the stimulation of agrin-induced receptor clustering through a MuSK-independent pathway (By similarity).
Cellular Location	Secreted, extracellular space, extracellular matrix, basement membrane. Note=Major component

References

1. J Clin Endocrinol Metab. 2003 Oct;88(10):4960-6. 2. Breast Cancer Res. 2005;7(4):R411-21.

Images

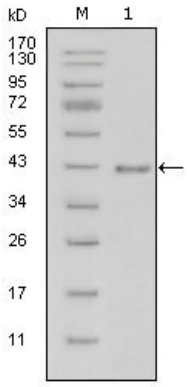


Figure 1: Western blot analysis using LAMB1 mouse mAb against truncated LAMB1-His recombinant protein (1).

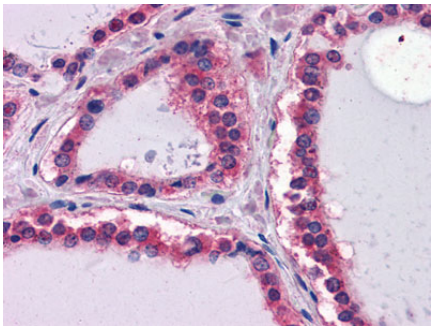


Figure 2: Immunohistochemical analysis of paraffin-embedded human Thyroid tissues using LAMB1 mouse mAb

Citations

- Expression of signal transducer and activator of transcription 3 and its phosphorylated form is significantly upregulated in patients with papillary thyroid cancer.

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