

Laminin γ -1 (D-3): sc-17751

BACKGROUND

Laminins are essential and abundant structural non-collagenous glycoproteins localizing to basement membranes. Basement membranes (cell-associated extracellular matrices (ECMs)) are polymers of laminins with stabilizing Type IV Collagen networks, Nidogen and several proteoglycans. Basement membranes are found under epithelial layers, around the endothelium of blood vessels, and surrounding muscle, peripheral nerve and fat cells. Formation of basement membranes influences cell proliferation, phenotype, migration, gene expression and tissue architecture. Each Laminin is a heterotrimer of α , β and γ chain subunits that undergoes cell-secretion and incorporation into the ECM. Laminins can self-assemble, bind to other matrix macromolecules and have unique and shared cell interactions mediated by Integrins, dystroglycan and cognate laminin receptors. The human Laminin γ -1 gene maps to chromosome 1q31 and is ubiquitously expressed in tissues that produce basement membranes.

CHROMOSOMAL LOCATION

Genetic locus: LAMC1 (human) mapping to 1q25.3; Lamc1 (mouse) mapping to 1 G3.

SOURCE

Laminin γ -1 (D-3) is a mouse monoclonal antibody raised against amino acids 1420-1609 of Laminin γ -1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Laminin γ -1 (D-3) is available conjugated to agarose (sc-17751 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-17751 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-17751 PE), fluorescein (sc-17751 FITC), Alexa Fluor[®] 488 (sc-17751 AF488), Alexa Fluor[®] 546 (sc-17751 AF546), Alexa Fluor[®] 594 (sc-17751 AF594) or Alexa Fluor[®] 647 (sc-17751 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-17751 AF680) or Alexa Fluor[®] 790 (sc-17751 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Laminin γ -1 (D-3) is recommended for detection of Laminin γ -1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:500), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Laminin γ -1 siRNA (h): sc-29388, Laminin γ -1 siRNA (m): sc-35780, Laminin γ -1 shRNA Plasmid (h): sc-29388-SH, Laminin γ -1 shRNA Plasmid (m): sc-35780-SH, Laminin γ -1 shRNA (h) Lentiviral Particles: sc-29388-V and Laminin γ -1 shRNA (m) Lentiviral Particles: sc-35780-V.

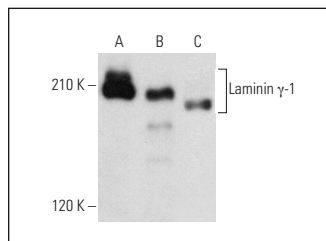
Molecular Weight of Laminin γ -1: 200-215 kDa.

Positive Controls: H4 cell lysate: sc-2408 or IMR-32 cell lysate: sc-2409.

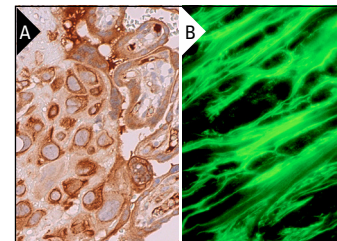
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Laminin γ -1 (D-3): sc-17751. Western blot analysis of Laminin γ -1 expression in H4 (A), IMR-32 (B) and A-10 (C) whole cell lysates.



Laminin γ -1 (D-3): sc-17751. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing membrane and cytoplasmic staining of trophoblastic cells and decidual cells (A). Immunofluorescence staining of normal human cornea frozen section showing trabecular meshwork staining (B).

SELECT PRODUCT CITATIONS

- Breitkreutz, D., et al. 2004. Inhibition of basement membrane formation by a nidogen-binding Laminin γ -1 chain fragment in human skin-organotypic cocultures. *J. Cell Sci.* 117: 2611-2622.
- Ishibashi, M., et al. 2005. The cyclooxygenase inhibitor indomethacin modulates gene expression and represses the extracellular matrix protein Laminin γ -1 in human glioblastoma cells. *Exp. Cell Res.* 302: 244-252.
- Chang, K.C., et al. 2011. Desmoplastic tumour-associated stroma versus neural tissue in central nervous system metastasis: effects of different microenvironments on tumour growth. *Histopathology* 59: 31-39.
- Piovan, C., et al. 2012. Oncosuppressive role of p53-induced miR-205 in triple negative breast cancer. *Mol. Oncol.* 6: 458-472.
- Küttner, V., et al. 2013. Global remodelling of cellular microenvironment due to loss of collagen VII. *Mol. Syst. Biol.* 9: 657.
- Hoorn, E.J., et al. 2016. Bullous pemphigoid with a dual pattern of glomerular immune complex disease. *Am. J. Kidney Dis.* 67: 302-306.
- Smuczek, B., et al. 2017. The Laminin-derived peptide C16 regulates GPNMB expression and function in breast cancer. *Exp. Cell Res.* 358: 323-334.
- Ye, G., et al. 2019. Lamc1 promotes the Warburg effect in hepatocellular carcinoma cells by regulating PKM2 expression through Akt pathway. *Cancer Biol. Ther.* 12: 1-9.
- Kulkarni, A., et al. 2021. Oncolytic H-1 parvovirus binds to sialic acid on laminins for cell attachment and entry. *Nat. Commun.* 12: 3834.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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