

Laminin α -4 (3H2): sc-130540

BACKGROUND

Laminins are essential and abundant structural non-collagenous glyco-proteins 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 α -4 gene maps to chromosome 6q21 and is expressed in adult heart, lung, ovary, small and large intestines, liver, and placenta.

REFERENCES

1. Tryggvason, K. 1993. The Laminin family. *Curr. Opin. Cell Biol.* 5: 877-882.
2. Schnaper, H.W., Kleinman, H.K. and Grant, D.S. 1993. Role of Laminin in endothelial cell recognition and differentiation. *Kidney Int.* 43: 20-25.
3. Iivanainen, A., Sainio, K., Sariola, H. and Tryggvason, K. 1995. Primary structure and expression of a novel human Laminin α -4 chain. *FEBS Lett.* 365: 183-188.
4. Engvall, E. and Wewer, U.M. 1996. Domains of Laminin. *J. Cell. Biochem.* 61: 493-501.
5. Luckenbill-Edds, L. 1997. Laminin and the mechanism of neuronal outgrowth. *Brain Res. Brain Res. Rev.* 23: 1-27.
6. Ekblom, M., Falk, M., Salmivirta, K., Durbeek, M. and Ekblom, P. 1998. Laminin isoforms and epithelial development. *Ann. N.Y. Acad. Sci.* 857: 194-211.
7. Hansen, K. and Abrass, C.K. 1999. Role of Laminin isoforms in glomerular structure. *Pathobiology* 67: 84-91.
8. Aberdam, D., Virolle, T. and Simon-Assmann, P. 2000. Transcriptional regulation of Laminin gene expression. *Microsc. Res. Tech.* 51: 228-237.
9. Colognato, H. and Yurchenco, P.D. 2000. Form and function: the Laminin family of heterotrimers. *Dev. Dyn.* 218: 213-234.

CHROMOSOMAL LOCATION

Genetic locus: LAMA4 (human) mapping to 6q21.

SOURCE

Laminin α -4 (3H2) is a mouse monoclonal antibody raised against purified Laminin α 4 β 1 γ 1 isolated from platelets of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Laminin α -4 (3H2) is recommended for detection of Laminin α -4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Laminin α -4 siRNA (h): sc-43147, Laminin α -4 shRNA Plasmid (h): sc-43147-SH and Laminin α -4 shRNA (h) Lentiviral Particles: sc-43147-V.

Molecular Weight of Laminin α -4: 227 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

SELECT PRODUCT CITATIONS

1. Yan, Y., Qian, H., Jiang, H., Yu, H., Sun, L., Wei, X., Sun, Y., Ge, H., Zhou, H., Li, X., Hashimoto, T., Tang, X. and Liu, P. 2018. Laminins in an *in vitro* anterior lens capsule model established using HLE B-3 cells. *Mol. Med. Rep.* 17: 5726-5733.
2. Yan, Y., Yu, H., Sun, L., Liu, H., Wang, C., Wei, X., Song, F., Li, H., Ge, H., Qian, H., Li, X., Tang, X. and Liu, P. 2019. Laminin α 4 overexpression in the anterior lens capsule may contribute to the senescence of human lens epithelial cells in age-related cataract. *Aging* 11: 2699-2723.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.