SANTA CRUZ BIOTECHNOLOGY, INC.

Laminin α-2 (4H8-2): sc-59854

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 α-2 gene is necessary for sustenance of mature muscle cells. The Laminin α-2 gene is associated with congenital muscular dystrophy (CMD) in humans and dystrophia muscularis in mice.

CHROMOSOMAL LOCATION

Genetic locus: LAMA2 (human) mapping to 6q22.33; Lama2 (mouse) mapping to 10 A4.

SOURCE

Laminin α-2 (4H8-2) is a rat monoclonal antibody raised against native Laminin α-2 of mouse origin, with epitope mapping to the N-terminal domain.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Laminin α-2 (4H8-2) is available conjugated to agarose (sc-59854 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-59854 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-59854 PE), fluorescein (sc-59854 FITC), Alexa Fluor® 488 (sc-59854 AF488), Alexa Fluor® 546 (sc-59854 AF546), Alexa Fluor® 594 (sc-59854 AF594) or Alexa Fluor® 647 (sc-59854 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-59854 AF680) or Alexa Fluor® 790 (sc-59854 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Laminin α-2 (4H8-2) is recommended for detection of Laminin α-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:50, dilution range 1:50-1:100), immunoprecipitation [1-2 µg per 100-500 µg 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).

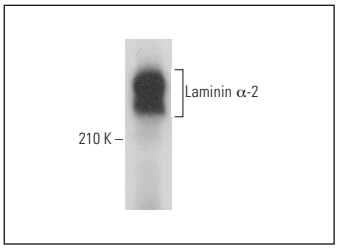
Suitable for use as control antibody for Laminin α-2 siRNA (h): sc-43143, Laminin α-2 siRNA (m): sc-43144, Laminin α-2 shRNA Plasmid (h): sc-43143-SH, Laminin α-2 shRNA Plasmid (m): sc-43144-SH, Laminin α-2 shRNA (h) Lentiviral Particles: sc-43143-V and Laminin α-2 shRNA (m) Lentiviral Particles: sc-43144-V.

Molecular Weight of Laminin α-2: 300 kDa.

STORAGE

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

DATA



Laminin α-2 (4H8-2): sc-59854. Western blot analysis of Laminin α-2 expression in C2C12 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Klover, P., et al. 2009. Skeletal muscle growth and fiber composition in mice are regulated through the transcription factors Stat5a/b: linking growth hormone to the androgen receptor. FASEB J. 23: 3140-3148.
2. Fatima, S., et al. 2012. Abcg2 expression marks tissue-specific stem cells in multiple organs in a mouse progeny tracking model. Stem Cells 30: 210-221.
3. Hunt, L.C., et al. 2013. Hyaluronan synthesis and myogenesis: a requirement for hyaluronan synthesis during myogenic differentiation independent of pericellular matrix formation. J. Biol. Chem. 288: 13006-13021.
4. Hitachi, K., et al. 2014. Myostatin signaling regulates Akt activity via the regulation of miR-486 expression. Int. J. Biochem. Cell Biol. 47: 93-103.
5. Hunt, L.C., et al. 2015. The glucose-sensing transcription factor MLX promotes myogenesis via myokine signaling. Genes Dev. 29: 2475-2489.
6. Kanda, M., et al. 2016. Leukemia inhibitory factor enhances endogenous cardiomyocyte regeneration after myocardial infarction. PLoS ONE 11: e0156562.
7. Sugg, K.B., et al. 2017. Inhibition of platelet-derived growth factor signaling prevents muscle fiber growth during skeletal muscle hypertrophy. FEBS Lett. 591: 801-809.
8. Fujimaki, S., et al. 2018. Notch1 and Notch2 coordinately regulate stem cell function in the quiescent and activated states of muscle satellite cells. Stem Cells 36: 278-285.
9. Giordani, L., et al. 2019. High-dimensional single-cell cartography reveals novel skeletal muscle-resident cell populations. Mol. Cell 74: 609-621.e6.
10. Munroe, M., et al. 2019. Pericyte transplantation improves skeletal muscle recovery following hindlimb immobilization. FASEB J. 33: 7694-7706.

RESEARCH USE

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