abcam

ab247822

Anti-Laminin beta 1 antibody [EPR3190(2)] - BSA and Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR3190(2)
Purification technique	Affinity purification Protein A
Concentration	1.03 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-

Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-

Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information 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).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab247822 is the carrier-free version of ab109293.

Patented technology

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Laminin beta 1 also known as LAMB1 is a subunit of the laminin molecule an essential component of the extracellular matrix. This protein has an approximate molecular weight of 200 kDa. Laminin beta 1 is one of the three chains that form the laminin heterotrimer. It is predominantly expressed in basement membranes which provide structural support and segregate tissues. The laminin 1 (laminin-111) complex including the LAMB1 chain contributes to cell adhesion differentiation migration and plays a role in tissue development and repair.
Biological function summary	This component of the laminin molecule plays a critical role in maintaining the integrity of tissues by organizing cell architecture and mediating cellular signals. Laminin beta 1 is part of a larger laminin protein complex that interacts with a variety of cell surface receptors including integrins and dystroglycan contributing to cell communication and signal transduction. These interactions guide cell orientation and regulate vital processes such as cell movement and growth.
Pathways	Laminin beta 1 participates in the integrin signaling pathway and the PI3K-AKT signaling pathway. It interacts closely with integrin proteins such as integrin alpha-6 and integrin beta-4 during these processes. In integrin signaling the laminin molecule facilitates the binding between cells and their surrounding extracellular matrix. This connection influences cellular responses including survival and motility which are necessary for normal development and wound healing processes.
Associated diseases and disorders	Alterations in laminin beta 1 expression are linked to conditions like muscular dystrophy and Pierson syndrome. In muscular dystrophy the dysfunction of laminin beta 1 interacts with proteins such as dystrophin in muscle cells

contributing to compromised structural integrity and muscle wasting. Similarly in Pierson syndrome abnormalities in laminin beta 1 are associated with a rare genetic disorder that affects the kidneys and eyes where it implicates the protein nephrin in the glomerular basement membrane leading to serious renal dysfunction.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

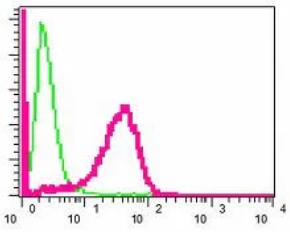
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

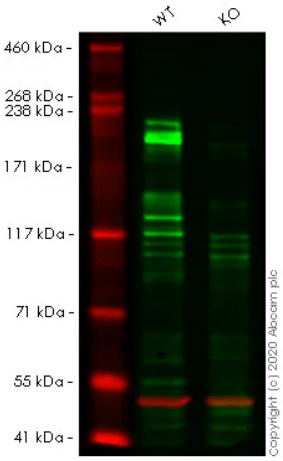
3 product images



Flow Cytometry (Intracellular) - Anti-Laminin beta 1 antibody [EPR3190(2)] - BSA and Azide free (ab247822)

Laminin beta 1 Flow Cytometry (Intracellular) staining using rabbit Anti-Laminin beta 1 antibody

This data was developed using ab109293, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of permeabilized A431 cells using ab109293 (red) at a diluiton of 1/100 or a rabbit IgG (negative) (green).



Western blot - Anti-Laminin beta 1 antibody [EPR3190(2)] - BSA and Azide free (ab247822)

Laminin beta 1 Western blot staining using rabbit Anti-Laminin beta 1 antibody

This data was developed using the same antibody clone in a different buffer formulation (ab109293).
Lanes 1- 2: Merged signal (red and green). Green - ab109293 observed at 200 kDa. Red - Anti-alpha Tubulin antibody [DM1A] - Loading Control (ab7291) observed at 50 kDa.

ab109293 was shown to react with Laminin beta 1 in wild-type HeLa cells in western blot. Loss of signal was observed when knockout cell line ab265414 (knockout cell lysate ab257499) was used. Wild-type HeLa and LAMB1 knockout HeLa cell lysates were subjected to SDS-PAGE. Membrane was blocked for 1 hour at room temperature in 0.1% TBST with 3% non-fat dried milk. ab109293 and Anti-alpha Tubulin antibody [DM1A] - Loading Control (ab7291) overnight at 4°C at a 1 in 1000 dilution and a 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye®800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye®680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-Laminin beta 1 antibody [EPR3190(2)] (ab109293) at 1/1000 dilution

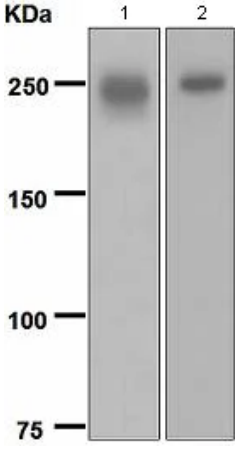
Lane 1:
Wild-type HeLa cell lysate at 20 µg

Lane 2:
Western blot - Human LAMB1 (Laminin beta 1) knockout HeLa cell lysate (ab257499) at 20 µg

Performed under reducing conditions.

Predicted band size: 198 kDa

Observed band size: 200 kDa



Western blot - Anti-Laminin beta 1 antibody [EPR3190(2)] - BSA and Azide free (ab247822)

Laminin beta 1 Western blot staining using rabbit Anti-Laminin beta 1 antibody

This data was developed using ab109293, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-Laminin beta 1 antibody [EPR3190(2)] (ab109293) at 1/1000 dilution

Lane 1:
Human fetal kidney lysate at 10 µg

Lane 2:
A431 cell lysate at 10 µg

Predicted band size: 198 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.