abcam

ab222391

Anti-Lamin B Receptor/LBR antibody [E398L] - 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	E398L
Purification technique	Affinity purification Protein A
Concentration	0.992 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-

Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab199376 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information LBR

Function	Catalyzes the reduction of the C14-unsaturated bond of lanosterol, as part of the metabolic pathway leading to cholesterol biosynthesis (PubMed:12618959, PubMed:16784888, PubMed:21327084, PubMed:27336722, PubMed:9630650). Plays a critical role in myeloid cell cholesterol biosynthesis which is essential to both myeloid cell growth and functional maturation (By similarity). Mediates the activation of NADPH oxidases, perhaps by maintaining critical levels of cholesterol required for membrane lipid raft formation during neutrophil differentiation (By similarity). Anchors the lamina and the heterochromatin to the inner nuclear membrane (PubMed:10828963).

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

ab222391 is the carrier-free version of ab32535.

Species reactivity

Mouse: We have preliminary internal testing data to indicate this antibody may not react with this species. Please contact us for more information.

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	The Lamin B Receptor (LBR) also known as L. B. R. L B R or lamin B is a protein located in the inner nuclear membrane. This protein has a molecular mass of approximately 70 kDa. It acts as a receptor for lamin proteins specifically lamin B. The LBR mediates the attachment of heterochromatin and lamins to the inner nuclear membrane playing a structural role in the maintenance of nuclear architecture. It is widely expressed in various tissues notably in cells involved in rapidly proliferating tissues.
Biological function summary	The LBR protein serves several critical functions beyond its mechanical duties. It participates in the regulation of chromatin organization and gene expression owing to its interaction with chromatin-related proteins. LBR is part of the nuclear envelope lattice and forms complexes with lamin proteins and heterochromatin. This association supports its role in anchoring chromatin at the nuclear periphery modulating processes such as DNA replication and transcription.
Pathways	The LBR plays pivotal roles in nuclear envelope assembly and chromatin organization. It holds significance in the cholesterol biosynthesis pathway where it

	metabolizes sterol intermediates to cholesterol. This function relates LBR to other proteins including lamin A/C which collaborate in maintaining nuclear shape and function. Together they orchestrate various cellular processes important for cell cycle progression and differentiation.
Associated diseases and disorders	Alterations in LBR function have links to conditions such as Pelger-Huët anomaly and Greenberg skeletal dysplasia. Pelger-Huët anomaly manifests as a benign hematologic condition with defective nuclear shape in neutrophils while Greenberg dysplasia is characterized by skeletal abnormalities. In these contexts LBR connects to lamin B and other nuclear envelope proteins that contribute to the pathophysiological features observed in these disorders.

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

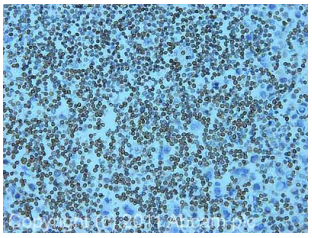
We do not recommend this combination. It is not covered by our product promise.

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.

4 product images



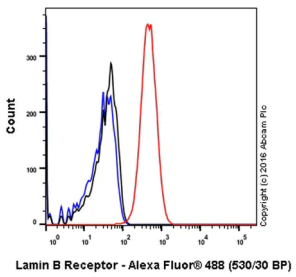
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Lamin B Receptor/LBR antibody [E398L] - BSA and Azide free (ab222391)

Lamin B Receptor/LBR Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Lamin B Receptor/LBR antibody

IHC image of ab32535 staining in human breast cancer formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab32535, 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

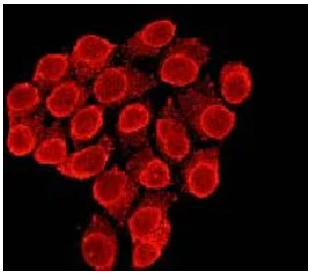
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32535).



Flow Cytometry (Intracellular) - Anti-Lamin B Receptor/LBR antibody [E398L] - BSA and Azide free (ab222391)

Lamin B Receptor/LBR Flow Cytometry (Intracellular) staining using rabbit Anti-Lamin B Receptor/LBR antibody

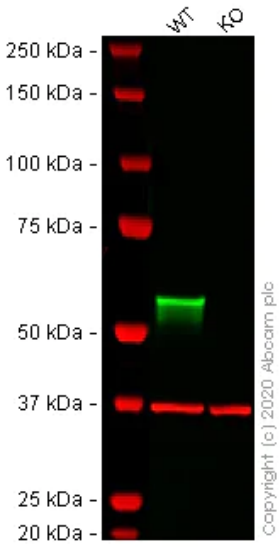
Intracellular Flow Cytometry analysis of HeLa (human cervix adenocarcinoma) cells labeling Lamin B Receptor/LBR with unpurified ab32535 at 1/20 dilutionc (10ug/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488) (1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Black) was used as the isotype control, cells without incubation with primary antibody and secondary antibody (Blue) were used as the unlabeled control.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32535).



Immunocytochemistry/ Immunofluorescence - Anti-Lamin B Receptor/LBR antibody [E398L] - BSA and Azide free (ab222391)

Lamin B Receptor/LBR Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Lamin B Receptor/LBR antibody

ab32535, at a 1/500 dilution, staining Lamin B Receptor/LBR in HeLa cells by Immunofluorescence.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32535).



Western blot - Anti-Lamin B Receptor/LBR antibody [E398L] - BSA and Azide free (ab222391)

Lamin B Receptor/LBR Western blot staining using rabbit Anti-Lamin B Receptor/LBR antibody

This data was developed using the same antibody clone in a different buffer formulation (ab32535).
Lanes 1 - 2: Merged signal (red and green). Green - ab32535 observed at 58 kDa. Red - loading control, ab8245 (Mouse anti-GAPDH antibody [6C5]) observed at 37kDa.

ab32535 was shown to react with Lamin B Receptor/LBR in wild-type HEK-293 cells in western blot. Loss of signal was observed when LBR knockout cell lysate ab257503 was used. Wild-type and LBR knockout cell lysates were subjected to SDS-PAGE. Membranes were blocked in 3% milk before incubation with ab32535 and ab8245 (Mouse anti-GAPDH antibody [6C5]) overnight at 4°C at a 1 in 500 dilution and a 1 in 20000 dilution respectively. Blots were incubated with Goat anti-Mouse IgG H&L (IRDye® 800CW) preabsorbed (ab216772) and Goat anti-Rabbit IgG H&L (IRDye® 680RD) preabsorbed (ab216777) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-Lamin B Receptor/LBR antibody [E398L] (ab32535) at 1/500 dilution

Lane 1:
Wild-type HEK-293 cell lysate at 20 µg

Lane 2:
Western blot - Human LBR (Lamin B Receptor) knockout HEK-293T cell lysate (ab257503) at 20 µg

Lane 2:
Western blot - Human LBR (Lamin B Receptor) knockout HEK-293T cell line (ab266308)

Performed under reducing conditions.

Predicted band size: 71 kDa

Observed band size: 58 kDa

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