abcam

Product datasheet

Anti-Lamin B Receptor/LBR antibody [E398L] ab32535

KO VALIDATED Recombinant RabMAb

3 Abreviews 44 References 6 Images

Overview

Product name	Anti-Lamin B Receptor/LBR antibody [E398L]
Description	Rabbit monoclonal [E398L] to Lamin B Receptor/LBR
Host species	Rabbit
Tested applications	**Suitable for:** Flow Cyt (Intra), WB, ICC/IF, IHC-P
Species reactivity	**Reacts with:** Human **Predicted to work with:** Rat
Immunogen	Synthetic peptide within Human Lamin B Receptor/LBR. The exact sequence is proprietary.
Positive control	IF: HeLa cells. WB: HEK-293 and Jurkat whole cell lysate (**ab7899**). Flow Cyt (intra): HeLa cells. IHC-P: Human breast carcinoma tissue.
General notes	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 production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**. Mouse: We have preliminary internal testing data to indicate this antibody may not react with this species. Please contact us for more information.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: 49% PBS, 50% Glycerol (glycerin, glycerine), 0.05% BSA
Purity	Protein A purified
Clonality	Monoclonal

Clone number	E398L
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab32535 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

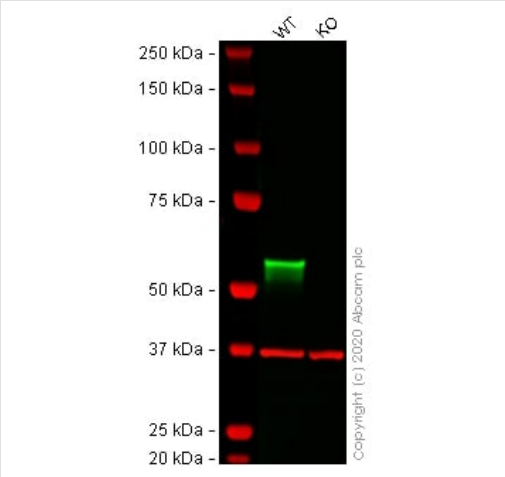
Application	Abreviews	Notes
Flow Cyt (Intra)		Use at an assay dependent concentration. **ab172730** - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.
WB	★★★★★ (1)	1/500. Detects a band of approximately 67 kDa (predicted molecular weight: 71 kDa).
ICC/IF	★☆☆☆☆ (1)	1/500.
IHC-P		Use a concentration of 5 µg/ml. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Target

Function	Anchors the lamina and the heterochromatin to the inner nuclear membrane.
Involvement in disease	Defects in LBR are a cause of Pelger-Huet anomaly (PHA) [MIM:169400]. PHA is an autosomal dominant inherited abnormality of neutrophils, characterized by reduced nuclear segmentation and an apparently looser chromatin structure. Heterozygotes show hypolobulated neutrophil nuclei with coarse chromatin. Presumed homozygous individuals have ovoid neutrophil nuclei, as well as varying degrees of developmental delay, epilepsy, and skeletal abnormalities. Defects in LBR are the cause of hydrops-ectopic calcification-moth-eaten skeletal dysplasia (HEM) [MIM:215140]; also known as Greenberg skeletal dysplasia. HEM is a rare autosomal recessive chondrodystrophy characterized by early in utero lethality and, therefore, considered to be nonviable. Affected fetuses typically present with fetal hydrops, short-limbed dwarfism, and a marked disorganization of chondro-osseous calcification and may present with polydactyly and additional nonskeletal malformations. Defects in LBR may be a cause of Reynolds syndrome (REYNS) [MIM:613471]. It is a syndrome specifically associating limited cutaneous systemic sclerosis and primary biliray cirrhosis. It is characterized by liver disease, telangiectasia, abrupt onset of digital paleness or cyanosis in response to cold exposure or stress (Raynaud phenomenon), and variable features of scleroderma. The liver disease is characterized by pruritis, jaundice, hepatomegaly, increased serum alkaline phosphatase and positive serum mitochondrial autoantibodies, all consistent with primary biliary cirrhosis.
Sequence similarities	Belongs to the ERG4/ERG24 family.
Post-translational modifications	Phosphorylated by CDK1 protein kinase in mitosis when the inner nuclear membrane breaks down into vesicles that dissociate from the lamina and the chromatin. It is phosphorylated by different protein kinases in interphase when the membrane is associated with these structures.

	Phosphorylation of LBR and HP1 proteins may be responsible for some of the alterations in chromatin organization and nuclear structure which occur at various times during the cell cycle.
Cellular localization	Nucleus inner membrane.

Images



Western blot - Anti-Lamin B Receptor/LBR antibody [E398L] (ab32535)

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

Lane 1 : Wild-type HEK-293 cell lysate
Lane 2 : Human LBR (Lamin B Receptor) knockout HEK-293T cell lysate (**ab257503**)

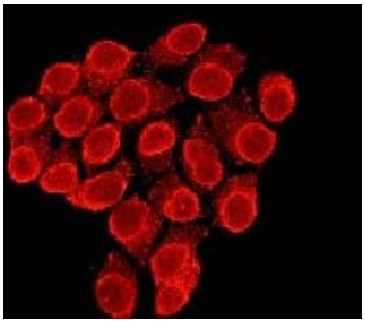
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 71 kDa
Observed band size: 58 kDa

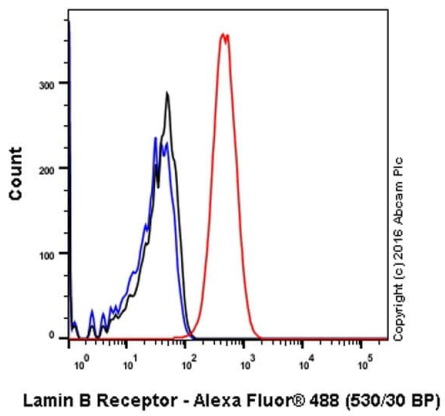
Lanes 1 - 2: Merged signal (red and green). Green - ab32535 observed at 58 kDa. Red - loading control, **ab8245** (Mouse anti-GAPDH antibody [6C5]) observed at 37kDa.

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 lysate **ab257503** was used. Wild-type and LBR knockout HEK-293 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.



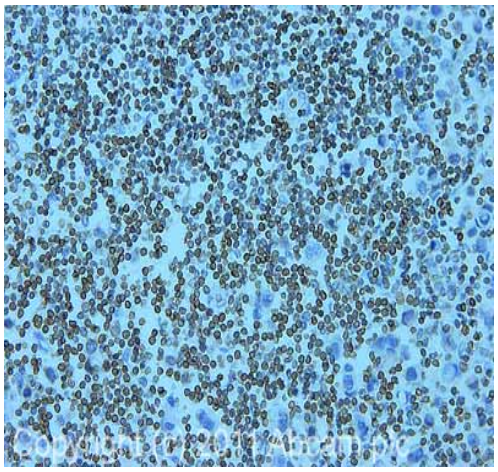
Immunocytochemistry/ Immunofluorescence - Anti-Lamin B Receptor/LBR antibody [E398L] (ab32535)

Ab32535, at a 1/500 dilution, staining Lamin B Receptor/LBR in HeLa cells by Immunofluorescence.



Flow Cytometry (Intracellular) - Anti-Lamin B Receptor/LBR antibody [E398L] (ab32535)

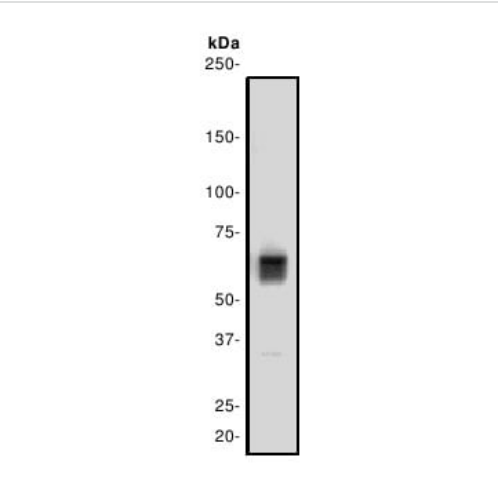
Intracellular Flow Cytometry analysis of HeLa (human cervix adenocarcinoma) cells labeling Lamin B Receptor/LBR with unpurified ab32535 at 1/20 dilutionc (10ug/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488) (1/2000 dilution) 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.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Lamin B Receptor/LBR antibody [E398L] (ab32535)

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.

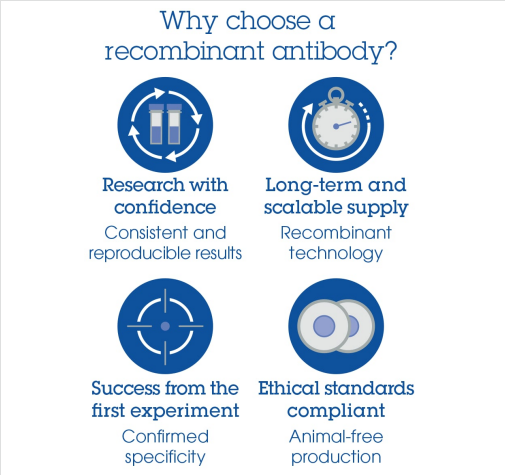
For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Western blot - Anti-Lamin B Receptor/LBR antibody [E398L] (ab32535)

Anti-Lamin B Receptor/LBR antibody [E398L] (ab32535) at 1/500 dilution + Jurkat cell lysate

Predicted band size: 71 kDa
Observed band size: 67 kDa



Anti-Lamin B Receptor/LBR antibody [E398L]

(ab32535)

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