abcam

ab108922

Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker

Lab Essentials | Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 50% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR4068
Purification technique	Affinity purification Protein A
Specificity	The antibody recognizes full length Lamin A/B1/C and the cleaved small unit.
Concentration	0.185 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/10 - 1/100

Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Ictidomys tridecemlineatus
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000 - 1/10000
Notes	-

Species	Rat
Dilution info	1/1000 - 1/10000
Notes	-

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Predicted

Species	Ictidomys tridecemlineatus
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Ictidomys tridecemlineatus
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/20
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Ictidomys tridecemlineatus

Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/100 - 1/250
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/100 - 1/250
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Human
Dilution info	1/100 - 1/250
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Predicted

Species	Ictidomys tridecemlineatus
Dilution info	-
Notes	-

Target data

See full target information LMNB1

Function	Lamins are intermediate filament proteins that assemble into a filamentous meshwork, and which constitute the major components of the nuclear lamina, a fibrous layer on the nucleoplasmic side of the inner nuclear membrane (PubMed:28716252, PubMed:32910914). Lamins provide a framework for the nuclear envelope, bridging the nuclear envelope and chromatin, thereby playing an important role in nuclear assembly, chromatin organization, nuclear membrane and telomere dynamics (PubMed:28716252, PubMed:32910914). The structural integrity of the lamina is strictly controlled by the cell cycle, as seen by the

disintegration and formation of the nuclear envelope in prophase and telophase, respectively (PubMed:28716252, PubMed:32910914).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Stable for 12 months at -20°C

Notes

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.

Supplementary info

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

Activity summary	Lamin A Lamin B1 and Lamin C are nuclear envelope proteins each representing different forms of lamin molecules. These proteins are important components of the nuclear lamina. Lamin A and Lamin C are encoded by the LMNA gene and result from alternative splicing. Lamin A has a molecular weight of approximately 74 kDa while Lamin C weighs around 65 kDa. Lamin B1 with a molecular weight of about 66 kDa is a product of the LMNB1 gene. These proteins express largely in various tissues and are central to maintaining nuclear structure and integrity.

Biological function summary	Lamin proteins regulate nuclear architecture and maintain chromatin organization. They participate in forming the nuclear lamina a dense fibrillar network inside the nucleus. The lamina provides structural support to the nuclear envelope and plays roles in DNA replication and transcription. Lamin molecules also interact with nuclear pore complexes therefore contributing to molecular transport across the nuclear envelope. Lamin A/C and Lamin B1 function together with other proteins like emerin and lamin associated polypeptides in forming multi-protein complexes that influence cell cycle regulation and differentiation.
Pathways	Lamin proteins integrate into pathways governing the cell cycle and DNA repair. They contribute to the mitotic pathway assisting in the disassembly and reassembly of the nuclear envelope during cell division. Lamin molecules also engage in the DNA damage response pathway cooperating with repair proteins such as p53 and BRCA1. Through these pathways lamin proteins ensure proper progression through the cell cycle and maintain genomic stability by aiding in the repair of DNA damage.
Associated diseases and disorders	Lamins associate with a variety of nuclear envelopathies and arepsponsible for rare genetic disorders like Hutchinson-Gilford Progeria Syndrome (HGPS) and Emery-Dreifuss Muscular Dystrophy (EDMD). Mutations in the LMNA gene affect nuclear mechanics leading to accelerated aging in HGPS. Similarly disruptions in lamin A/C's interactions with emerin result in EDMD characterized by muscular dystrophy and cardiac issues. These connections highlight the role of lamin proteins in nuclear stability and their impact on disease development.

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

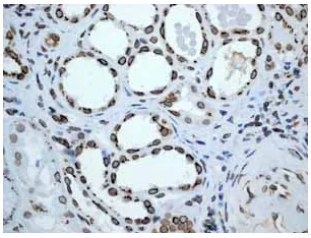
We do not recommend this combination. It is not covered by our product promise.

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:

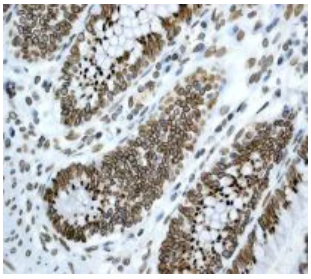
16 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922)

Lamin A + Lamin B1 + Lamin C Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Lamin A + Lamin B1 + Lamin C antibody

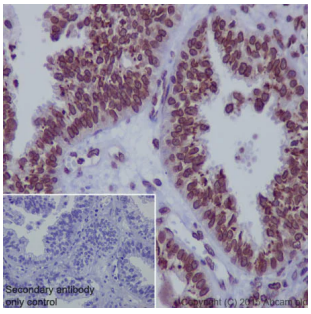
Unpurified ab108922 showing positive staining in Normal human kidney tissue.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922)

Lamin A + Lamin B1 + Lamin C Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Lamin A + Lamin B1 + Lamin C antibody

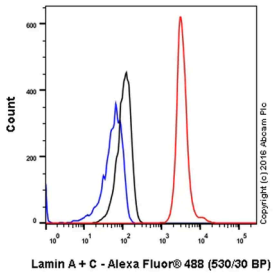
Immunohistochemical analysis of paraffin-embedded human colonic tissue using unpurified ab108922 at a diltion of 1/100



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922)

Lamin A + Lamin B1 + Lamin C Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Lamin A + Lamin B1 + Lamin C antibody

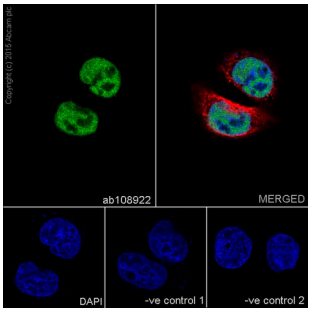
Immunohistochemical staining of paraffin embedded human ovarian carcinoma with purified ab108922 at a working dilution of 1/200. The secondary antibody used is HRP goat anti-rabbit IgG H&L (ab97051) at 1/500. The sample is counter-stained with hematoxylin. Antigen retrieval was perfomed using Tris-EDTA buffer, pH 9.0. PBS was used instead of the primary antibody as the negative control, and is shown in the inset.



Flow Cytometry (Intracellular) - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922)

Lamin A + Lamin B1 + Lamin C Flow Cytometry (Intracellular) staining using rabbit Anti-Lamin A + Lamin B1 + Lamin C antibody

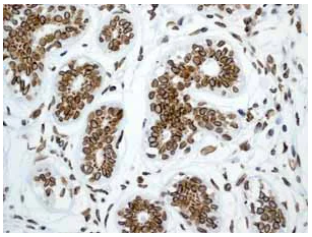
Intracellular Flow Cytometry analysis of HeLa cells labelling Lamin A + B1 + C with purified ab108922 at a dilution of 1/20 (red). Cells were fixed with 4% paraformaldehyde and permeabilized with 90% methanol. An Alexa Flour®488-conjugated goat anti-rabbit IgG (1/2000) was used as the secondary antibody. Black - Isotype control, rabbit monoclonal IgG. Blue - Unlabelled control, cells without incubation with primary and secondary antibodies.



Immunocytochemistry/ Immunofluorescence - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922)

Lamin A + Lamin B1 + Lamin C Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Lamin A + Lamin B1 + Lamin C antibody

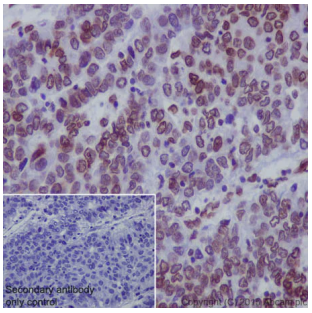
Immunofluorescence staining of HeLa cells with purified ab108922 at a working dilution of 1/250, counter-stained with DAPI. The secondary antibody was Alexa Fluor® 488 goat anti-rabbit (ab150077), used at a dilution of 1/1000. ab7291, a mouse anti-tubulin antibody (1/1000), was used to stain tubulin along with ab150120 (Alexa Fluor® 594 goat anti-mouse, 1/1000), shown in the top right hand panel. The cells were fixed in 4% PFA and permeabilized using 0.1% Triton X 100. The negative controls are shown in bottom middle and right hand panels - for negative control 1, purified ab108922 was used at a dilution of 1/500 followed by an Alexa Fluor® 594 goat anti-mouse antibody (ab150120) at a dilution of 1/500. For negative control 2, ab7291 (mouse anti-tubulin) was used at a dilution of 1/500 followed by an Alexa Fluor® 488 goat anti-rabbit antibody (ab150077) at a dilution of 1/400.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922)

Lamin A + Lamin B1 + Lamin C Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Lamin A + Lamin B1 + Lamin C antibody

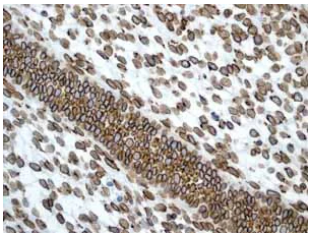
Unpurified ab108922 showing positive staining in Normal human breast tissue.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922)

Lamin A + Lamin B1 + Lamin C Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Lamin A + Lamin B1 + Lamin C antibody

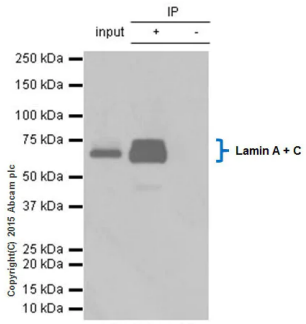
Immunohistochemical staining of paraffin embedded human liver carcinoma with purified ab108922 at a working dilution of 1/200. The secondary antibody used is HRP goat anti-rabbit IgG H&L (ab97051) at 1/500. The sample is counter-stained with hematoxylin. Antigen retrieval was perfomed using Tris-EDTA buffer, pH 9.0. PBS was used instead of the primary antibody as the negative control, and is shown in the inset.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922)

Lamin A + Lamin B1 + Lamin C Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Lamin A + Lamin B1 + Lamin C antibody

Unpurified ab108922 showing positive staining in Normal human uterus tissue.

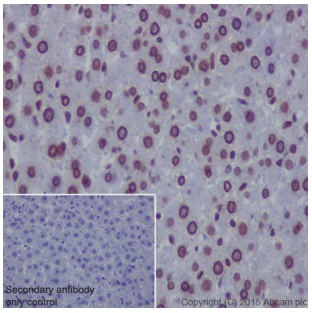


Immunoprecipitation - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922)

ab108922 (purified) at 1/20 immunoprecipitating Lamin A + B1 + C in 10 µg HepG2 (Lanes 1 and 2, observed at 70, 74, and 65 kDa - ab108922 recognises three isoforms). Lane 3 - PBS. For western blotting, VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/10,000 dilution.
Blocking buffer and concentration: 5% NFDM/TBST.

Dilution buffer and concentration: 5% NFDM/TBST.

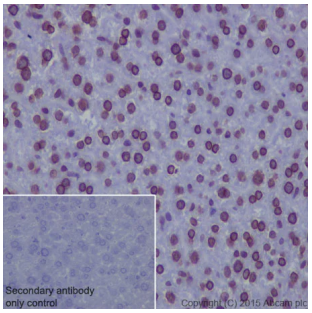
All lanes:
Immunoprecipitation - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922)

Lamin A + Lamin B1 + Lamin C Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Lamin A + Lamin B1 + Lamin C antibody

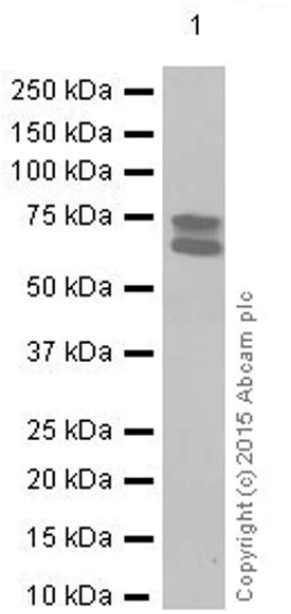
Immunohistochemical staining of paraffin embedded rat liver with purified ab108922 at a working dilution of 1/200. The secondary antibody used is HRP goat anti-rabbit IgG H&L (ab97051) at 1/500. The sample is counter-stained with hematoxylin. Antigen retrieval was perfomed using Tris-EDTA buffer, pH 9.0. PBS was used instead of the primary antibody as the negative control, and is shown in the inset.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922)

Lamin A + Lamin B1 + Lamin C Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Lamin A + Lamin B1 + Lamin C antibody

Immunohistochemical staining of paraffin embedded mouse liver with purified ab108922 at a working dilution of 1/200. The secondary antibody used is HRP goat anti-rabbit IgG H&L (ab97051) at 1/500. The sample is counter-stained with hematoxylin. Antigen retrieval was perfomed using Tris-EDTA buffer, pH 9.0. PBS was used instead of the primary antibody as the negative control, and is shown in the inset.



Western blot - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922)

Lamin A + Lamin B1 + Lamin C Western blot staining of HeLa cell lysate using rabbit Anti-Lamin A + Lamin B1 + Lamin C antibody

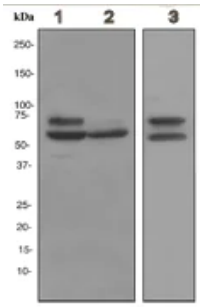
Blocking buffer: 5% NFDM/TBST
Dilution buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922) at 1/10000 dilution

All lanes:
HeLa cell lysate at 10 µg

Secondary

All lanes:
HRP goat anti-rabbit IgG (H+L) at 1/100000 dilution

Observed band size: 65 kDa, 70 kDa, 74 kDa



Western blot - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922)

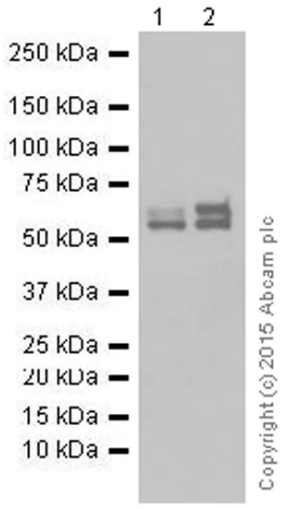
Lamin A + Lamin B1 + Lamin C Western blot staining using rabbit Anti-Lamin A + Lamin B1 + Lamin C antibody

All lanes:
Western blot - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922) at 1/1000 dilution

Lane 1:
HeLa cell lysate at 10 µg

Lane 2:
HepG2 cell lysate at 10 µg

Lane 3:
HACAT cell lysate at 10 µg



Western blot - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922)

Lamin A + Lamin B1 + Lamin C Western blot staining using rabbit Anti-Lamin A + Lamin B1 + Lamin C antibody

Blocking buffer: 5% NFDM/TBST
Dilution buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922) at 1/10000 dilution

Lane 1:
mouse heart lysate at 10 µg

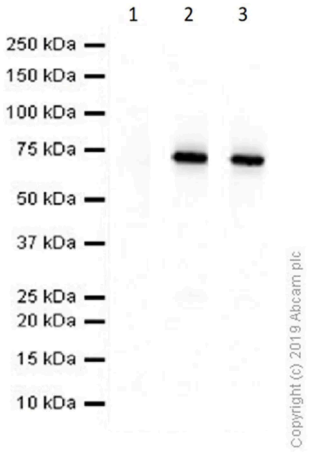
Lane 2:
rat heart lysate at 10 µg

Secondary

All lanes:
HRP goat anti-rabbit IgG (H+L) at 1/100000 dilution

Predicted band size: 130 kDa, 30 kDa, 47 kDa

Observed band size: 65 kDa, 70 kDa, 74 kDa



Western blot - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922)

Lamin A + Lamin B1 + Lamin C Western blot staining of Myc and DDK tagged recombinant Human Lamin B2 protein using rabbit Anti-Lamin A + Lamin B1 + Lamin C antibody

Blocking/Diluting buffer and concentration: 5% NFDM/TBST.
ab108922 does not cross react with Lamin B2.

Lane 1:
Western blot - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922) at 1/1000 dilution

Lane 2:
Anti-Myc tag antibody at 1/10000 dilution

Lane 3:
Western blot - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922) at 1/5000 dilution

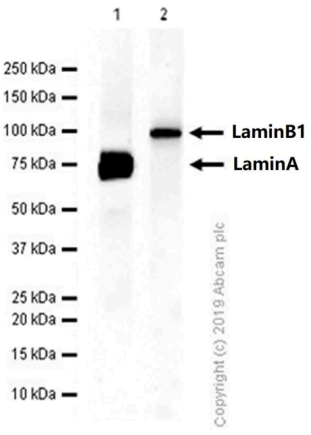
All lanes:
Myc and DDK tagged recombinant Human Lamin B2 protein at 0.01 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 68 kDa

Exposure time: 7s



Western blot - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922)

Lamin A + Lamin B1 + Lamin C Western blot staining of GST tagged recombinant Human Lamin B1 protein (1 to 586) (91 KDa) using rabbit Anti-Lamin A + Lamin B1 + Lamin C antibody

Blocking/Diluting buffer and concentration 5% NFDM/TBST
All lanes:
Western blot - Anti-Lamin A + Lamin B1 + Lamin C antibody [EPR4068] - Nuclear Envelope Marker (ab108922) at 1/1000 dilution

Lane 1:
Western blot - Recombinant Human Lamin A protein (ab83472) at 10 µg

Lane 2:
GST tagged recombinant Human Lamin B1 protein (1 to 586) (91 KDa) at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 75 kDa, 91 kDa

Exposure time: 180s

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