abcam

ab150358

Anti-PODXL antibody [EPR9518]

Anti-PODXL antibody [EPR9518] (ab150358) is a rabbit monoclonal antibody detecting PODXL in **Western Blot, Flow Cytometry (Intra), IHC-P, ICC/IF**. Suitable for **Human**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency
- Over 10 publications

Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR9518
Purification technique	Affinity purification Protein A
Concentration	0.45 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/1000
Notes	**For unpurified use at 1/250 - 1/500.**

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Tested

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

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	**For unpurified use at 1/500.**

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/250
Notes	-

Target data

See full target information PODXL

Function	Involved in the regulation of both adhesion and cell morphology and cancer progression. Functions as an anti-adhesive molecule that maintains an open filtration pathway between neighboring foot processes in the podocyte by charge repulsion. Acts as a pro-adhesive molecule, enhancing the adherence of cells to immobilized ligands, increasing the rate of migration and cell-cell contacts in an integrin-dependent manner. Induces the formation of apical actin-dependent microvilli. Involved in the formation of a preapical plasma membrane subdomain to set up initial epithelial polarization and the apical lumen formation during renal tubulogenesis. Plays a role in cancer development and aggressiveness by inducing cell migration and invasion through its interaction with the actin-binding protein EZR. Affects EZR-dependent signaling events, leading to increased activities of the MAPK and PI3K pathways in cancer cells.

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	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-PODXL antibody [EPR9518] (ab150358) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human samples.

What is the molecular weight of PODXL?
Anti-PODXL [EPR9518] (ab150358) specifically detects a band for PODXL (UniProt: O00592) at a molecular weight of 58kDa.

Trusted by the scientific community
Anti-PODXL [EPR9518] (ab150358) was first used in a scientific publication in 2012 and has been cited over 10 times in peer-reviewed journals.

Specificity confirmed
The specificity of Anti-PODXL antibody [EPR9518] (ab150358) has been confirmed by Western blot testing in PODXL Knockout HAP1 cell line, ab266887.

Other related products
We have a range of other formats of antibody clone [EPR9518] also available for your convenience: ab150358, Alexa Fluor® 488 - ab208254, Alexa Fluor® 568 - ab211225, Carrier free - ab269888, Alexa Fluor® 647 - ab307402

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these 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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

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

Activity summary	PODXL also known as podocalyxin-like protein is a type I transmembrane glycoprotein possessing a mass of approximately 165 kDa. This protein is a member of the CD34 family and exhibits expression primarily on the apical surface of podocytes in the kidney most hematopoietic stem cells and certain cancer cell types. In its mechanical role PODXL mainly functions in cell adhesion and the maintenance of cell shape through its cytoplasmic domain that connects with the cytoskeleton. The sialylated and sulfated glycosaminoglycan chains on the extracellular domain contribute to its charge and barrier functions.
Biological function summary	The primary function of podocalyxin-like protein revolves around maintaining the filtration barrier in the kidney by repelling negatively charged molecules. It forms part of the slit diaphragm complex along with proteins like nephrin which provides the structural support necessary for its function. PODXL also plays roles in the development of the vascular system and hematopoietic cell lineage contributing to cellular processes like migration and proliferation. Its interaction with the actin cytoskeleton ensures proper localization and function within these biological contexts.

Pathways	There are important connections between podocalyxin-like protein and the Ras signaling pathway involved in cell growth and adhesion processes. It can also engage in integrin-mediated cell adhesion pathways facilitating processes such as cell signaling and migration. Through these pathways it associates with proteins like ezrin which links it to the cytoskeleton and contributes to its role in cell morphology and motility.
Associated diseases and disorders	Altered PODXL expression shows relevance in aggressive forms of cancer including renal cell carcinoma and breast cancer. The protein associates with different markers of poor prognosis making it of interest in cancer research. Furthermore in kidney diseases such as focal segmental glomerulosclerosis abnormal PODXL expression affects the slit diaphragm's function leading to proteinuria. Its interaction with nephrin can highlight disrupted cellular architecture typical of these disease states.

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

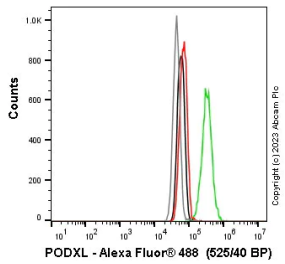
We do not recommend this combination. It is not covered by our product promise.

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.

17 product images



Flow Cytometry (Intracellular) - Anti-PODXL antibody [EPR9518] (ab150358)

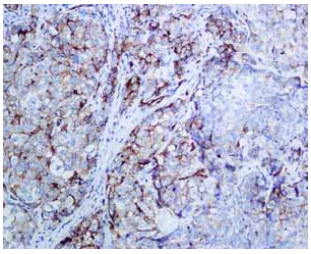
PODXL Flow Cytometry (Intracellular) staining using rabbit Anti-PODXL antibody

Flow cytometry overlay histogram showing wild-type Hela (green line) and PODXL knockout Hela stained with ab150358 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilised with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS containing 10% normal goat serum to block non-specific protein-protein interaction followed by the antibody (ab150358) (1x 106 in 100µl at 1.0 µg/ml (1/2250)) for 30min at 22°C.

The secondary antibody Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/4000 for 30min at 22°C

Isotype control antibody Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control was used at the same concentration and conditions as the primary antibody (wild-type Hela - black line, PODXL knockout Hela - grey line). Unlabelled sample was also used as a control (this line is not shown for the purpose of simplicity).

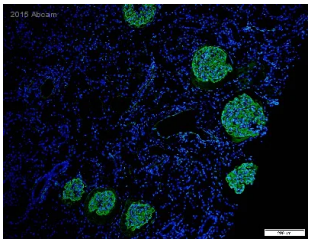
Acquisition of >5000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PODXL antibody [EPR9518] (ab150358)

PODXL Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PODXL antibody

Immunohistochemical analysis of paraffin embedded human breast adenocarcinoma tissue using unpurified ab150358 showing positive staining. Heat mediated antigen retrieval was performed before commencing with IHC staining protocol.

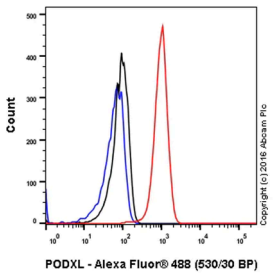


This image is courtesy of an anonymous customer review.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PODXL antibody [EPR9518] (ab150358)

PODXL Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PODXL antibody

Unpurified ab150358 staining PODXL in human kidney tissue sections by Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections). Tissue samples were fixed with formaldehyde, cut into 20 micron slices, permeabilized with 0.05% tween-20 and blocked for 60 minutes at 25°C. Antigen retrieval was by heat mediation. The sample was incubated with primary antibody at a dilution of 1/250 at 25°C for 1 hour. An Alexa Fluor® 488-conjugated donkey anti-rabbit polyclonal (1/1000) was used as the secondary antibody, at a dilution of 1/1200.

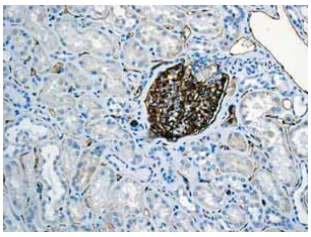


Flow Cytometry (Intracellular) - Anti-PODXL antibody [EPR9518] (ab150358)

PODXL Flow Cytometry (Intracellular) staining using rabbit Anti-PODXL antibody

Intracellular Flow Cytometry analysis of HeLa (human cervix adenocarcinoma) cells labeling PODXL with purified ab150358 at 1/250 dilution (red). The secondary antibody was Goat anti rabbit IgG (Alexa Fluor® 488) at 1/2000 dilution. A Rabbit monoclonal IgG (Black) was used as the

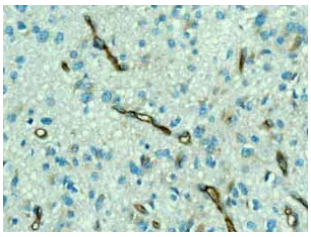
isotype control and cells without incubation with primary antibody and secondary antibody (Blue) were used as unlabeled control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PODXL antibody [EPR9518] (ab150358)

PODXL Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PODXL antibody

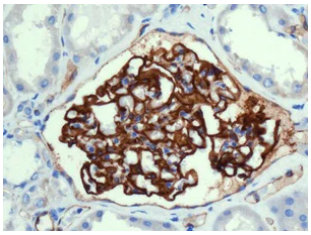
Immunohistochemical analysis of paraffin embedded normal human kidney tissue using unpurified ab150358 showing positive staining. Heat mediated antigen retrieval was performed before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PODXL antibody [EPR9518] (ab150358)

PODXL Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PODXL antibody

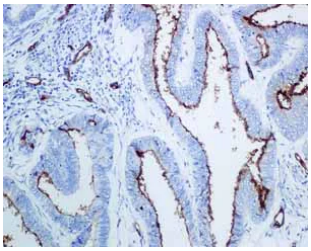
Immunohistochemical analysis of paraffin embedded human glioma tissue using unpurified ab150358 showing positive staining. Heat mediated antigen retrieval was performed before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PODXL antibody [EPR9518] (ab150358)

PODXL Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PODXL antibody

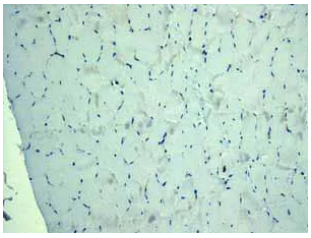
Immunohistochemical analysis of paraffin embedded human kidney tissue labeling PODXL with unpurified ab150358 antibody at a dilution of 1/100. Heat mediated antigen retrieval was performed before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PODXL antibody [EPR9518] (ab150358)

PODXL Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PODXL antibody

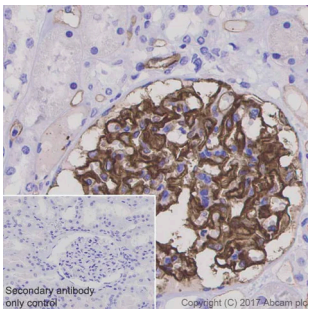
Immunohistochemical analysis of paraffin embedded human endometrial carcinoma tissue using unpurified ab150358 showing positive staining. Heat mediated antigen retrieval was performed before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PODXL antibody [EPR9518] (ab150358)

PODXL Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PODXL antibody

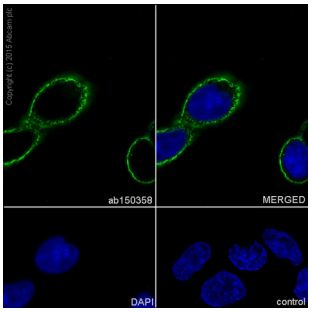
Immunohistochemical analysis of paraffin embedded human skeletal muscle tissue using unpurified ab150358 showing **negative staining**. Heat mediated antigen retrieval was performed before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PODXL antibody [EPR9518] (ab150358)

PODXL Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PODXL antibody

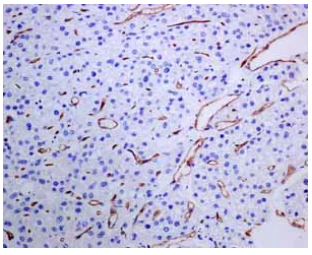
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human kidney tissue sections labeling PODXL with purified ab150358 at 1/1000 dilution (0.44 µg/ml). Heat mediated antigen retrieval was performed using ab93684 (Tris/EDTA buffer, pH 9.0). Tissue was counterstained with hematoxylin. ImmunoHistoProbe one step HRP Polymer (ready to use) is the secondary antibody.
PBS instead of the primary antibody was used as the negative control.



Immunocytochemistry/ Immunofluorescence - Anti-PODXL antibody [EPR9518] (ab150358)

PODXL Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PODXL antibody

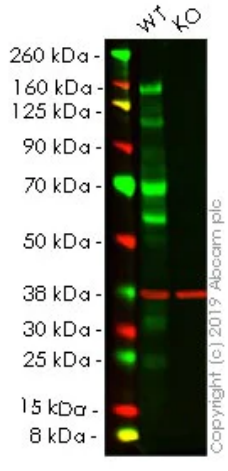
Immunocytochemistry/Immunofluorescence analysis of HeLa (human cervix adenocarcinoma) cells labeling PODXL with purified ab150358 at 1/500. Cells were fixed with 100% methanol. An Alexa Fluor® 488-conjugated goat anti-rabbit IgG (ab150077) at 1/1000 dilution was used as the secondary antibody. Nuclei couterstained with DAPI (blue).
Secondary Only Control: PBS was used instead of the primary antibody as the negative control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PODXL antibody [EPR9518] (ab150358)

PODXL Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PODXL antibody

Immunohistochemical analysis of paraffin embedded human hepatocellular carcinoma vessels using unpurified ab150358 showing positive staining. Heat mediated antigen retrieval was performed before commencing with IHC staining protocol.



Western blot - Anti-PODXL antibody [EPR9518] (ab150358)

PODXL Western blot staining using rabbit Anti-PODXL antibody

Lanes 1- 2: Merged signal (red and green). Green - ab150358 observed at 160 kDa. Red - Anti-GAPDH antibody [6C5] - Loading Control (ab8245) observed at 37 kDa.
ab150358 was shown to react with PODXL in wild-type HeLa cells in western blot. Loss of signal was observed when knockout cell line ab264984 (knockout cell lysate ab257210) was used. Wild-type HeLa and PODXL 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. ab150358 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) overnight at 4°C at a 1 in 10000 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-PODXL antibody [EPR9518] (ab150358) at 1/10000 dilution

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

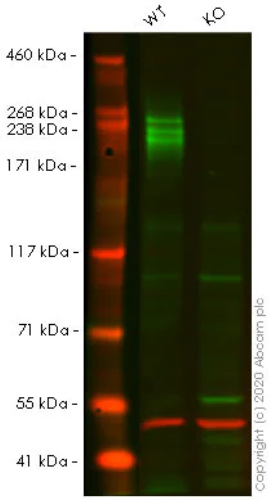
Lane 2:
PODXL knockout HeLa cell lysate at 20 µg

Lane 2:
Western blot - Human PODXL knockout HeLa cell line (ab264984)

Performed under reducing conditions.

Predicted band size: 58 kDa

Observed band size: 160 kDa



Western blot - Anti-PODXL antibody [EPR9518] (ab150358)

PODXL Western blot staining using rabbit Anti-PODXL antibody

Lanes 1- 2: Merged signal (red and green). Green - ab150358 observed at 200 kDa. Red - Anti-alpha Tubulin antibody [DM1A] - Loading Control (ab7291) observed at 50 kDa.
ab150358 was shown to react with PODXL in wild-type HCT116 cells in western blot. Loss of signal was observed when knockout cell line ab266887 (knockout cell lysate ab257211) was used. Wild-Type HCT116 and PODXL knockout HCT116 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. ab150358 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-PODXL antibody [EPR9518] (ab150358) at 1/1000 dilution

Lane 1:
Wild-type HCT116 cell lysate at 20 µg

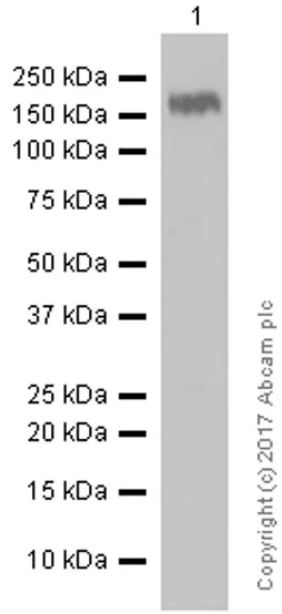
Lane 2:
PODXL knockout HCT116 cell lysate at 20 µg

Lane 2:
Western blot - Human PODXL knockout HCT116 cell line (ab266887)

Performed under reducing conditions.

Predicted band size: 58 kDa

Observed band size: 200 kDa



Western blot - Anti-PODXL antibody [EPR9518] (ab150358)

Blocking and diluting buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-PODXL antibody [EPR9518] (ab150358) at 1/10000 dilution

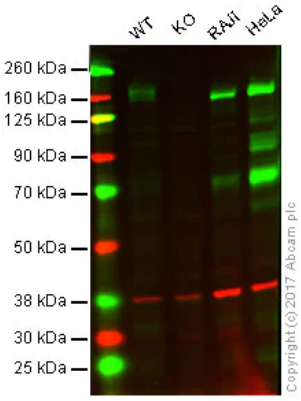
All lanes:
Human fetal kidney lysates at 15 µg

Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/2000 dilution

Predicted band size: 58 kDa

Observed band size: 165 kDa



Western blot - Anti-PODXL antibody [EPR9518] (ab150358)

PODXL Western blot staining using rabbit Anti-PODXL antibody

Lanes 1 - 4: Merged signal (red and green). Green - ab150358 observed at 160 kDa. Red - loading control, ab9484, observed at 37 kDa.
ab150358 was shown to specifically react with PODXL in wild-type cells as signal was lost in PODXL knockout cells. Wild-type and PODXL knockout samples were subjected to SDS-PAGE. ab150358 and ab9484 (Mouse anti-GAPDH loading control) were incubated overnight at 4°C at a 1/1000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed ab216776 secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-PODXL antibody [EPR9518] (ab150358) at 1/1000 dilution

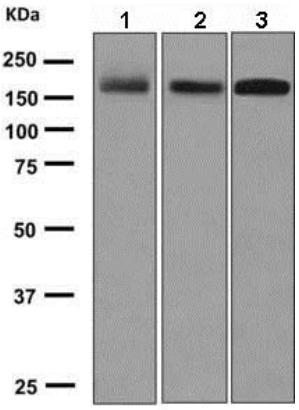
Lane 1:
Wild-type HAP1 whole cell lysate at 20 µg

Lane 2:
PODXL knockout HAP1 whole cell lysate at 20 µg

Lane 3:
Raji whole cell lysate at 20 µg

Lane 4:
HeLa whole cell lysate at 20 µg

Predicted band size: 58 kDa



Western blot - Anti-PODXL antibody [EPR9518] (ab150358)

All lanes:
Western blot - Anti-PODXL antibody [EPR9518] (ab150358) at 1/1000 dilution

Lane 1:
Raji lysate at 10 µg

Lane 2:
HeLa lysate at 10 µg

Lane 3:
Human fetal kidney lysate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 58 kDa

Observed band size: 165 kDa

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