abcam

ab264549

Anti-PODXL antibody [PcMab-47] - BSA and Azide free

Recombinant | KO Validated

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	PcMab-47
Purification technique	Affinity purification Protein A
Light chain type	kappa
Concentration	1.019 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC

Not recommended

Species	Human, Mouse, Rat

Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
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	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab264549 is the carrier-free version of ab264542.

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.

Want a custom formulation?

This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

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	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.

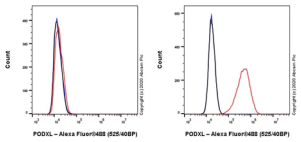
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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2 product images

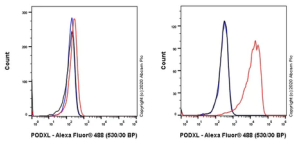


Flow Cytometry - Anti-PODXL antibody [PcMab-47] - BSA and Azide free (ab264549)

PODXL Flow Cytometry staining using mouse Anti-PODXL antibody

This data was developed using ab264542 the same antibody clone in a different buffer formulation.
Flow cytometric analysis of parental HAP1 (Wildtype control human chronic myelogenous leukemia near-haploid cell line, Right) / PODXL KO HAP1 (Left) cells labelling PODXL with ab264542 at 1/1000 dilution (0.1µg) (Red) compared with a Mouse monoclonal IgG (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat anti mouse IgG (Alexa Fluor® 488, ab150113) at 1/2000 dilution was used as the secondary antibody.

Gated on viable cells.



Flow Cytometry - Anti-PODXL antibody [PcMab-47] - BSA and Azide free (ab264549)

PODXL Flow Cytometry staining using mouse Anti-PODXL antibody

This data was developed using ab264542 the same antibody clone in a different buffer formulation.
Flow cytometric analysis of MDA-MB-468 (Human breast adenocarcinoma epithelial cell, Left) / Caco-2 (Human colorectal adenocarcinoma epithelial cell, Right) cells labelling PODXL with ab264542 at 1/1000 dilution (0.1µg) (Red) compared with a Mouse monoclonal IgG (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat anti mouse IgG (Alexa Fluor® 488, ab150113) at 1/2000 dilution was used as the secondary antibody.

Low expression control: MDA-MB-468. (PMID: 28384052).

Gated on viable cells.

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