

Product datasheet

Anti-PODXL antibody ab91306

[2 Images](#)

Overview

Product name	Anti-PODXL antibody
Description	Rabbit polyclonal to PODXL
Host species	Rabbit
Tested applications	Suitable for: WB
Species reactivity	Reacts with: Human
Immunogen	Synthetic peptide conjugated to KLH derived from within residues 300 - 400 of Human PODXL. Read Abcam's proprietary immunogen policy
Positive control	This antibody gave a positive signal in the following lysates: Kidney (Human Adult) Tissue; Kidney (Human Fetal) Tissue; HEK293 Whole Cell; A498 Whole Cell.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.02% Sodium Azide Constituents: 1% BSA, PBS, pH 7.4
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab91306** 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
WB		Use a concentration of 1 µg/ml. Detects a band of approximately 50 kDa (predicted molecular weight: 59 kDa).

Target

Function

Involved in the regulation of both adhesion and cell morphology and cancer progression. Function 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.

Tissue specificity

Glomerular epithelium cell (podocyte).

Sequence similarities

Belongs to the podocalyxin family.

Domain

Both the O-glycan-rich domain of the extracellular domain and the C-terminus PDZ-binding motif (DTHL) in the cytoplasmic tail harbor an apical sorting signal. The cytoplasmic domain is necessary for the apical membrane targeting and renal tubulogenesis. The cytoplasmic C-terminus PDZ-binding motif (DTHL) is essential for interaction with SLC9A3R1 and for targeting SLC9A3R1 to the apical cell membrane. The extracellular domain is necessary for microvillus formation (By similarity). The large highly anionic extracellular domain allows to maintain open filtration pathways between neighboring podocyte foot processes.

Post-translational modifications

N- and O-linked glycosylated. Sialoglycoprotein.

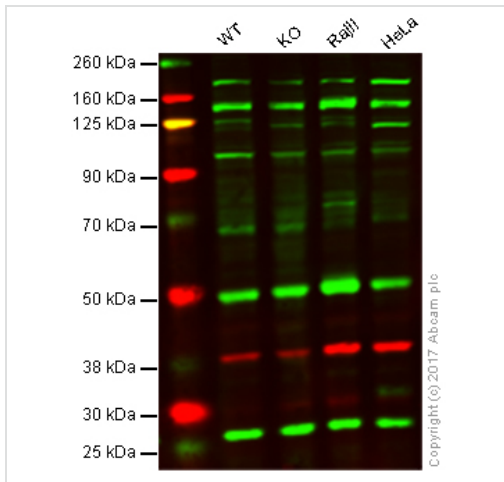
Cellular localization

Apical cell membrane. Cell projection, lamellipodium. Cell projection, filopodium. Cell projection, ruffle. Cell projection, microvillus. Membrane raft. Membrane. In single attached epithelial cells is restricted to a preapical pole on the free plasma membrane whereas other apical and basolateral proteins are not yet polarized. Colocalizes with SLC9A3R2 at the apical plasma membrane during epithelial polarization. Colocalizes with SLC9A3R1 at the trans-Golgi network (transiently) and at the apical plasma membrane. Its association with the membrane raft is transient. Colocalizes with actin filaments, EZR and SLC9A3R1 in a punctate pattern at the apical cell surface where microvilli form. Colocalizes with EZR and SLC9A3R2 at the apical cell membrane of glomerular epithelium cells (By similarity). Forms granular, punctuated pattern, forming patches, preferentially adopting a polar distribution, located on the migrating poles of the cell or forming clusters along the terminal ends of filipodia establishing contact with the endothelial cells. Colocalizes with the submembrane actin of lamellipodia, particularly associated with ruffles. Colocalizes with vinculin at protrusions of cells. Colocalizes with ITGB1. Colocalizes with PARD3, PRKCI, EXOC5, OCLN, RAB11A and RAB8A in apical membrane initiation sites (AMIS) during the generation of apical surface and lumenogenesis (By similarity).

Form

There are 2 isoforms produced by alternative splicing.

Images



Western blot - Anti-PODXL antibody (ab91306)

Lane 1: Wild-type HAP1 whole cell lysate (20 μ g)

Lane 2: PODXL knockout HAP1 whole cell lysate (20 μ g)

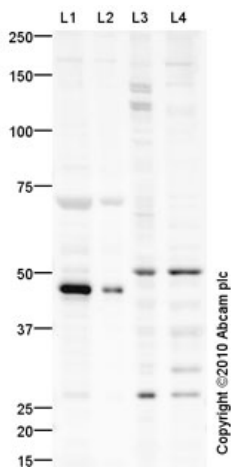
Lane 3: Raji whole cell lysate (20 μ g)

Lane 4: HeLa whole cell lysate (20 μ g)

Lanes 1 - 4: Merged signal (red and green).

Green - ab91306 observed at 58 kDa. Red - loading control, ab9484, observed at 37 kDa.

ab91306 was found to be non-specific when PODXL knockout samples were used. Wild-type and PODXL knockout samples were subjected to SDS-PAGE. ab91306 and ab9484 (Mouse anti-GAPDH loading control) were incubated overnight at 4°C at 1 μ g/ml 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.



Western blot - Anti-PODXL antibody (ab91306)

All lanes : Anti-PODXL antibody (ab91306)
at 1 µg/ml

Lane 1 : Human kidney tissue lysate - total protein (ab30203)

Lane 2 : Kidney (Human) Tissue Lysate - fetal normal tissue (ab30204)

Lane 3 : HEK293 (Human embryonic kidney cell line) Whole Cell Lysate

Lane 4 : A498 (Human Kidney Carcinoma) Whole Cell Lysate

Lysates/proteins at 10 µg per lane.

Secondary

All lanes : Goat Anti-Rabbit IgG H&L (HRP) preadsorbed (ab97080) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 59 kDa

Observed band size: 45,50 kDa

Additional bands at: 27 kDa, 70 kDa. We are unsure as to the identity of these extra bands.

Exposure time: 4 minutes

Abcam are unsure as to why this protein is running lower than its predicted molecular weight and would welcome feedback from customers working on PODXL.

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