abcam

# ab109316

# Anti-Zyxin antibody [EPR4302]

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, 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** | EPR4302 |
| **Purification technique** | Affinity purification Protein A |
| **Concentration** | 0.892 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## IHC-P

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/1000 |
| **Notes** | The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. |

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 1/1000 |
| **Notes** | The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. |

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/1000 |
| **Notes** | The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. |

## IP

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/50 |
| **Notes** | - |

### Expected

| | |
|---|---|
| **Species** | Rat, Human |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## WB

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/20000 |
| **Notes** | - |

### Expected

| | |
|---|---|
| **Species** | Mouse, Rat |

| | |
|---|---|
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## ICC/IF

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/500 |
| **Notes** | - |

### Expected

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

## Flow Cyt (Intra)

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/100 |
| **Notes** | ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody. |

### Expected

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

# Target data

See full target information ZYX

| | |
|---|---|
| **Function** | Adhesion plaque protein. Binds alpha-actinin and the CRP protein. Important for targeting TES and ENA/VASP family members to focal adhesions and for the |

formation of actin-rich structures. May be a component of a signal transduction pathway that mediates adhesion-stimulated changes in gene expression (By similarity).

## 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

**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** | Zyxin also known as ZYX is a mechanical regulator associated with cell adhesion and signaling. This protein has a molecular mass of approximately 61 kDa and shows expression in various cell types including those in the heart liver and lungs. As a component of focal adhesions zyxin plays a role in cytoskeletal dynamics by interacting with actin filaments and facilitating the formation of stress fibers. |

| | |
|---|---|
| **Biological function summary** | The protein has important roles in cellular processes such as migration and morphology. Zyxin often forms part of a larger protein complex that includes VASP and α-actinin which contribute to cell scaffolding and structural integrity. It serves as an organizer for cytoskeletal proteins ensuring proper cell movement and adaptability to cellular stress. Its actin-binding capacity enables it to regulate structural changes necessary for cellular adaptation to environmental stimuli. |
| **Pathways** | This protein is essential in the regulation of actin cytoskeleton associated pathways and adherens junction signaling. Zyxin interacts with Ena/VASP proteins which are significant in actin filament elongation helping regulate dynamic changes in cell shape and motility. Its relationship with LIM domain-containing proteins positions zyxin within pathways related to cell proliferation and signal transduction. |
| **Associated diseases and disorders** | Zyxin has been implicated in cancer progression especially in metastasis where altered cell adhesion and movement play a role. It also relates to cardiovascular diseases due to its involvement in mechanotransduction pathways critical to heart muscle function. In cancer zyxin influences the activity of YAP/TAZ transcription regulators affecting tumor cell behavior. In cardiovascular scenarios the protein interacts with paxillin to mediate responses to mechanical load changes impacting heart disease progression. |

## 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.

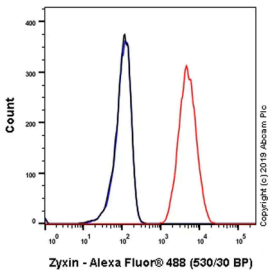
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We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

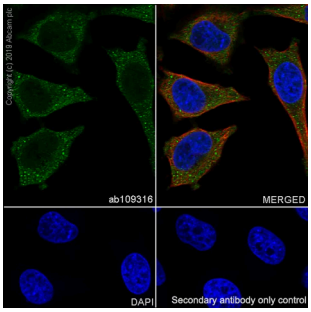
## 12 product images




### Flow Cytometry (Intracellular) - Anti-Zyxin antibody [EPR4302] (ab109316)

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

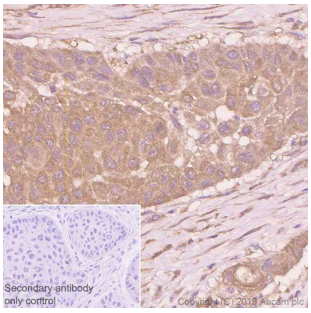
Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling Zyxin with Purified ab109316 at 1/100 dilution (10 µg/mL) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).




### Immunocytochemistry/ Immunofluorescence - Anti-Zyxin antibody [EPR4302] (ab109316)

Zyxin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Zyxin antibody

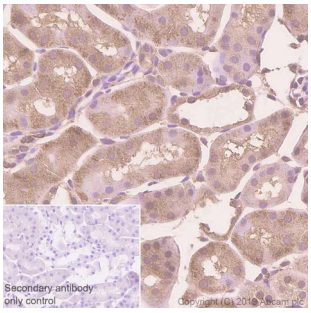
Immunocytochemistry/ Immunofluorescence analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling Zyxin with Purified ab109316 at 1/500 dilution (1.87 µg/mL). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 (2.5 µg/mL). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1/1000 (2 µg/mL) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.




### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Zyxin antibody [EPR4302] (ab109316)

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

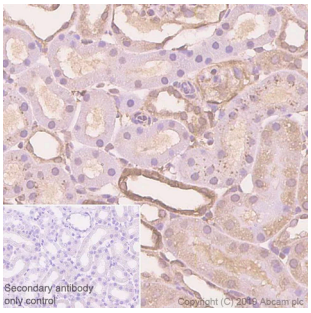
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human gastric carcinoma tissue sections labeling Zyxin with purified ab109316 at 1/1000 dilution (0.94 µg/mL). Heat mediated antigen retrieval using Bond™☒ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.




## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Zyxin antibody [EPR4302] (ab109316)

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

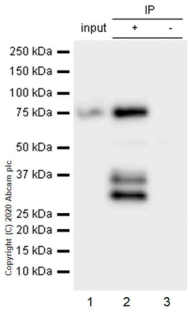
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse kidney tissue sections labeling Zyxin with purified ab109316 at 1/1000 dilution (0.94 µg/mL). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.




## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Zyxin antibody [EPR4302] (ab109316)

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

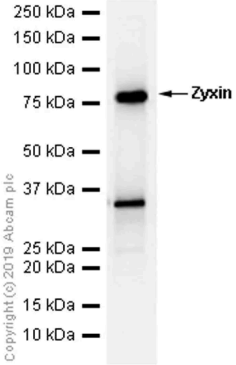
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat kidney tissue sections labeling Zyxin with purified ab109316 at 1/1000 dilution (0.94 µg/mL). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.




## Immunoprecipitation - Anti-Zyxin antibody [EPR4302] (ab109316)

Purified ab109316 at 1/50 dilution (2ug) immunoprecipitating Zyxin in Mouse testis lysate.
Lane 1 (input): Mouse testis lysate (10µg)
Lane 2 (+): ab109316 + Mouse testis lysate.
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab109316 in mouse testis lysate.
VeriBlot for IP Detection Reagent (HRP) (ab131366) (1/5000) was used for Western blotting.
Blocking Buffer and concentration: 5% NFDM/TBST.
Diluting buffer and concentration: 5% NFDM/TBST.
Observed band size: 82 kDa
We are unsure about the extra bands. They might be the cleavage fragments as what are described in PMID:17572661
All lanes:
Immunoprecipitation - Anti-Zyxin antibody [EPR4302] (ab109316)

Predicted band size: 61 kDa




## Western blot - Anti-Zyxin antibody [EPR4302] (ab109316)

Blocking/Diluting buffer: 5% NFDM/TBST
We are unsure about the extra bands. They might be the cleavage fragments as what are described in PMID:17572661

All lanes:
Western blot - Anti-Zyxin antibody [EPR4302] (ab109316) at 1/20000 dilution

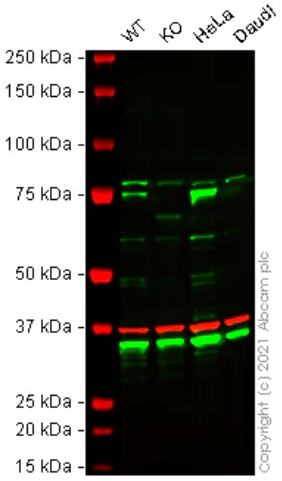
All lanes:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysates at 15 µg

Secondary

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

Predicted band size: 61 kDa

Observed band size: 82 kDa




## Western blot - Anti-Zyxin antibody [EPR4302] (ab109316)

Zyxin Western blot staining using rabbit Anti-Zyxin antibody

False colour image of Western blot: Anti-Zyxin antibody [EPR4302] staining at 1/20000 dilution, shown in green; Mouse anti-GAPDH antibody [6C5] (ab8245) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab109316 was shown to bind specifically to Zyxin. A band was observed at 75 kDa in wild-type HEK-293T cell lysates with no signal observed at this size in ZYX knockout cell line ab266503 (knockout cell lysate ab257809). The band observed in the knockout lysate lane below 75 kDa is likely to represent a truncated form of Zyxin. This has not been investigated further and the functional properties of the gene product have not been determined. To generate this image, wild-type and ZYX knockout HEK-293T cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in fluorescent western blot (TBS-based) blocking solution before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) at 1/20000 dilution.
All lanes:
Western blot - Anti-Zyxin antibody [EPR4302] (ab109316) at 1/20000 dilution

Lane 1:
Wild-type HEK-293T cell lysate at 20 µg

Lane 2:
ZYX knockout HEK-293T cell lysate at 20 µg

Lane 3:
HeLa cell lysate at 20 µg

Lane 4:
Daudi cell lysate at 20 µg

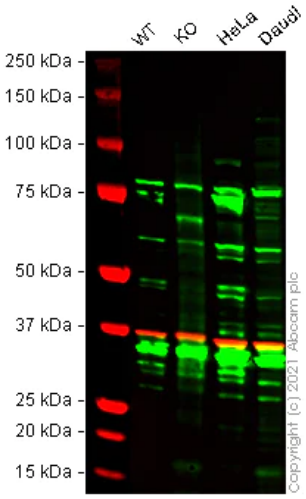
Secondary

All lanes:
Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 61 kDa

Observed band size: 75 kDa




## Western blot - Anti-Zyxin antibody [EPR4302] (ab109316)

Zyxin Western blot staining using rabbit Anti-Zyxin antibody

False colour image of Western blot: Anti-Zyxin antibody [EPR4302] staining at 1/20000 dilution, shown in green; Mouse anti-GAPDH antibody [6C5] (ab8245) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab109316 was shown to bind specifically to Zyxin. A band was observed at 75 kDa in wild-type HEK-293T cell lysates with no signal observed at this size in ZYX knockout cell line ab266504 (knockout cell lysate ab257810). The band observed in the knockout lysate lane below 75 kDa is likely to represent a truncated form of Zyxin. This has not been investigated further and the functional properties of the gene product have not been determined. To generate this image, wild-type and ZYX knockout HEK-293T cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in fluorescent western blot (TBS-based) blocking solution before incubation with primary antibodies overnight at 4°C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) at 1/20000 dilution.
All lanes:
Western blot - Anti-Zyxin antibody [EPR4302] (ab109316) at 1/20000 dilution

Lane 1:
Wild-type HEK-293T cell lysate at 20 µg

Lane 2:
ZYX knockout HEK-293T cell lysate at 20 µg

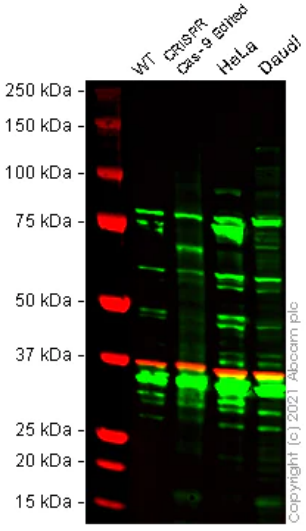
Lane 3:
HeLa cell lysate at 20 µg

Lane 4:
Daudi cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 61 kDa

Observed band size: 75 kDa




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All lanes:
Western blot - Anti-Zyxin antibody [EPR4302] (ab109316) at 1/20000 dilution

Lane 1:
Wild-type HEK-293T cell lysate at 20 µg

Lane 2:
ZYX CRISPR-Cas9 edited HEK-293T cell lysate at 20 µg

Lane 2:
Western blot - Human ZYX (Zyxin) knockout HEK-293T cell line (ab266504)

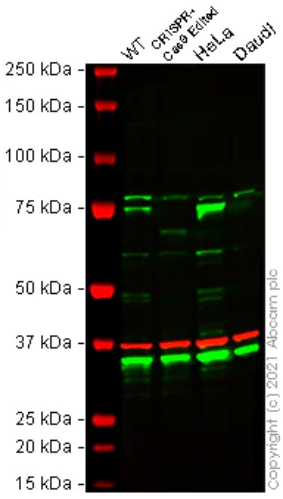
Lane 3:
HeLa cell lysate at 20 µg

Lane 4:
Daudi cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 61 kDa

Observed band size: 75 kDa




## Western blot - Anti-Zyxin antibody [EPR4302] (ab109316)

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All lanes:
Western blot - Anti-Zyxin antibody [EPR4302] (ab109316) at 1/20000 dilution

Lane 1:
Wild-type HEK-293T cell lysate at 20 µg

Lane 2:
ZYX CRISPR-Cas9 edited HEK-293T cell lysate at 20 µg

Lane 2:
Western blot - Human ZYX (Zyxin) knockout HEK-293T cell line (ab266503)

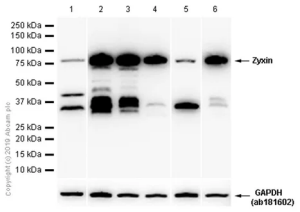
Lane 3:
HeLa cell lysate at 20 µg

Lane 4:
Daudi cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 61 kDa

Observed band size: 75 kDa




## Western blot - Anti-Zyxin antibody [EPR4302] (ab109316)

Zyxin Western blot staining using rabbit Anti-Zyxin antibody

Blocking/Diluting buffer: 5% NFDM/TBST
We are unsure about the extra bands. They might be the cleavage fragments as what are described in PMID:17572661

All lanes:
Western blot - Anti-Zyxin antibody [EPR4302] (ab109316) at 1/20000 dilution

Lane 1:
MCF7 (Human breast adenocarcinoma epithelial cell) whole cell lysates at 20 µg

Lane 2:
C2C12 (Mouse myoblasts myoblast) whole cell lysates at 20 µg

Lane 3:
Mouse lung lysates at 20 µg

Lane 4:
Mouse testis lysates at 20 µg

Lane 5:
Rat lung lysates at 20 µg

Lane 6:
Rat testis lysates at 20 µg

Secondary

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

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