abcam

ab239363

Anti-PAX8 antibody [EPR23508-20]

Recombinant | RabMAb | Advanced Validation | 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	EPR23508-20
Purification technique	Affinity purification Protein A
Concentration	0.508 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Expected

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

Not recommended

Species	Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ChIP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/2000
Notes	-

Species	Human
Dilution info	1/2000
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

IHC-Fr

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

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

Not recommended

Species	Rat
Dilution info	-
Notes	-

ChIC/CUT&RUN-seq

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Not recommended

Species	Rat
Dilution info	-
Notes	-

mIHC

Tested

Species	Mouse
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Human
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Rat

Dilution info	-
Notes	-

Target data

See full target information PAX8

Function	Transcription factor for the thyroid-specific expression of the genes exclusively expressed in the thyroid cell type, maintaining the functional differentiation of such 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

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	PAX8 also known as 3a8 is a transcription factor with a molecular mass of approximately 48 kDa. It belongs to the paired box (PAX) family of proteins which are characterized by a specific DNA-binding domain. PAX8 plays an important role in organ development and cellular differentiation. This protein is mainly expressed in the thyroid kidneys and Müllerian-derived tissues. Researchers often detect PAX8 using immunohistochemistry (PAX8 IHC) techniques due to its tissue-specific expression patterns.
Biological function summary	The PAX8 protein regulates the expression of genes related to organogenesis and cell fate determination. It forms part of transcriptional regulatory complexes partnering with other proteins to modulate gene activity. PAX8 supports embryonic development especially in the thyroid and urogenital tract. Its presence ensures the proper function and formation of these organs highlighting its significance in developmental biology.
Pathways	PAX8 interacts with several key biological processes. It notably participates in the thyroid hormone synthesis pathway where it regulates the expression of thyroglobulin and thyroperoxidase. PAX8 also affects the renal system through its interaction with WT1 a protein involved in kidney development. These pathways illustrate PAX8's role in maintaining endocrine and renal functions by influencing important protein interactions.
Associated diseases and disorders	PAX8 mutations and dysregulation connect to conditions like congenital hypothyroidism and renal agenesis. In congenital hypothyroidism defects in PAX8 lead to impaired thyroid development affecting hormone production. Moreover its interaction with BCL2 an important apoptosis regulator relates to certain cancers such as ovarian carcinoma. The misregulation of PAX8 increases the risk and progression of these disorders by disrupting normal physiological processes.

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

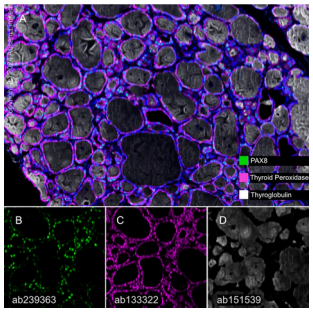
We do not recommend this combination. It is not covered by our product promise.

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.

16 product images



Multiplex immunohistochemistry - Anti-PAX8 antibody [EPR23508-20] (ab239363)

PAX8 Multiplex immunohistochemistry staining of Human thyroid tissue using rabbit Anti-PAX8 antibody

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded human thyroid tissue staining PAX8 with ab239363 at a 1/2000 dilution (0.247 µg/ml), ab133322 anti-Thyroid Peroxidase used at a 1/2000 dilution (0.377 µg/ml) and ab151539 anti-Thyroglobulin used at a 1/6000 dilution (0.14 µg/ml).
Panel A: merged staining of anti-PAX8 (green; Opal™520), anti-Thyroid Peroxidase (magenta; Opal™690) and anti-Thyroglobulin (gray; Opal™570) on human thyroid.

Panel B: anti-PAX8 staining nucleus of follicular epithelial cells in human thyroid.

Panel C: anti-Thyroid Peroxidase staining cytoplasm of follicular epithelial cells in human thyroid.

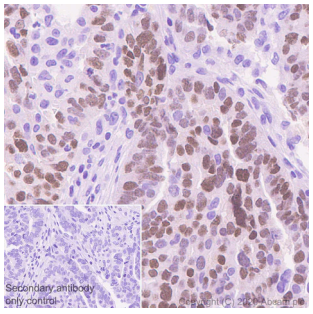
Panel D: anti-Thyroglobulin staining colloid in human thyroid.

Nuclear DNA was labeled with DAPI (shown in blue).

The section was incubated in three rounds of staining: in the order of ab239363, ab133322 and ab151539 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit using Opal Polymer HRP Ms + Rb secondary reagent. Image acquisition was performed with Leica SP8 confocal microscope.

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



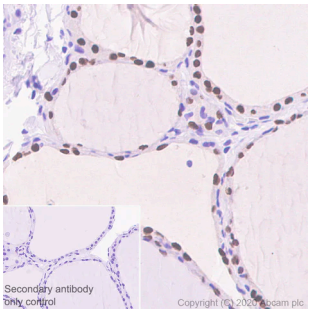
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX8 antibody [EPR23508-20] (ab239363)

PAX8 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PAX8 antibody

Immunohistochemical analysis of paraffin-embedded human ovarian cancer tissue labeling PAX8 with ab239363 at 1/2000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining in human ovarian cancer (PMID: 21317881). The section was incubated with ab239363 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

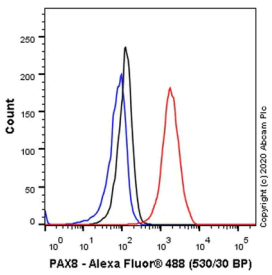


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX8 antibody [EPR23508-20] (ab239363)

PAX8 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PAX8 antibody

Immunohistochemical analysis of paraffin-embedded human thyroid tissue labeling PAX8 with ab239363 at 1/2000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining in human thyroid (PMID: 21317881). The section was incubated with ab239363 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

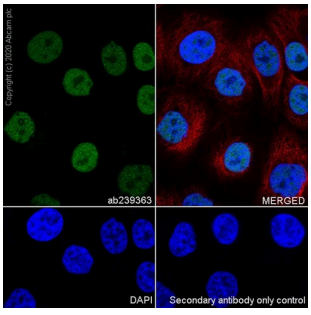
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Flow Cytometry (Intracellular) - Anti-PAX8 antibody [EPR23508-20] (ab239363)

PAX8 Flow Cytometry (Intracellular) staining using rabbit Anti-PAX8 antibody

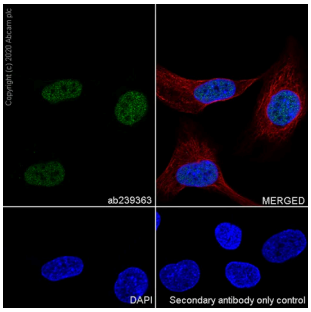
Intracellular flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized NIH:OVCAR-3 (human ovary adenocarcinoma epithelial cell) cells labelling PAX8 with ab239363 at 1/500 dilution (Red) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-PAX8 antibody [EPR23508-20] (ab239363)

PAX8 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PAX8 antibody

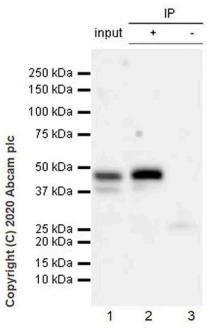
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized NIH:OVCAR-3 (human ovary adenocarcinoma epithelial cell) cells labelling PAX8 with ab239363 at 1/100 dilution, followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 (Green). Confocal image showing nuclear staining in NIH:OVCAR-3 cell line is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The Nuclear counterstain was DAPI (Blue).
Secondary antibody only control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-PAX8 antibody [EPR23508-20] (ab239363)

PAX8 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PAX8 antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized SK-OV-3 (human ovarian cancer epithelial cell) cells labelling PAX8 with ab239363 at 1/100 dilution, followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing nuclear staining in SK-OV-3 cell line is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The Nuclear counterstain was DAPI (Blue).
Secondary antibody only control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.



Immunoprecipitation - Anti-PAX8 antibody [EPR23508-20] (ab239363)

PAX8 was immunoprecipitated from 0.35 mg SK-OV-3 (human ovarian cancer epithelial cell), whole cell lysate 10 ug with ab239363 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab239363 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366) was used at 1/5000 dilution.
Lane 1: SK-OV-3 (human ovarian cancer epithelial cell), whole cell lysate 10 ug

Lane 2: ab239363 IP in SK-OV-3 whole cell lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab239363 in SK-OV-3 whole cell lysate

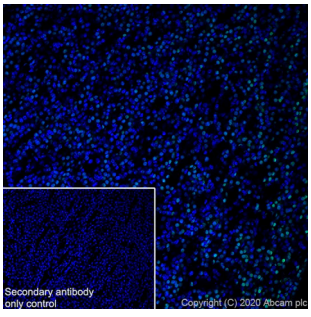
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 49 seconds

This blot was developed using a higher sensitivity ECL substrate.

All lanes:
Immunoprecipitation - Anti-PAX8 antibody [EPR23508-20] (ab239363)

Predicted band size: 48 kDa

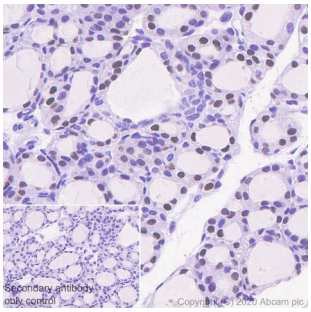


Immunohistochemistry (Frozen sections) - Anti-PAX8 antibody [EPR23508-20] (ab239363)

PAX8 Immunohistochemistry (Frozen sections) staining using rabbit Anti-PAX8 antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen mouse kidney tissue labeling PAX8 with ab239363 at 1/50 dilution followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution (Green). Nuclear staining on mouse kidney. is observed. The nuclear counterstain was DAPI (Blue).
Secondary antibody control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488)at 1/1000 dilution.

Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).

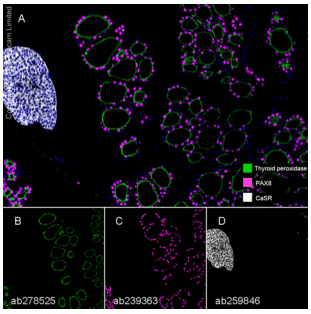


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX8 antibody [EPR23508-20] (ab239363)

PAX8 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PAX8 antibody

Immunohistochemical analysis of paraffin-embedded mouse thyroid tissue labeling PAX8 with ab239363 at 1/2000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining in mouse thyroid (PMID: 21317881). The section was incubated with ab239363 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



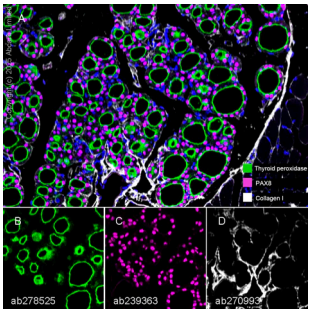
Multiplex immunohistochemistry - Anti-PAX8 antibody [EPR23508-20] (ab239363)

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded mouse thyroid staining of Thyroid Peroxidase/TPO with ab278525 at a 1/5000 (0.109 µg/ml) dilution, PAX8 with ab239363 at 1/2000 (0.254 µg/ml) dilution, and CaSR with ab259846 at 1/5000 (0.103 µg/ml), followed by a ready to use secondary antibody Opal Polymer HRP Ms + Rb.

Panel A: merged staining of anti-Thyroid peroxidase (green; Opal™ 520), anti-PAX8 (magenta; Opal™ 690) and anti-CaSR (gray; Opal™ 570) on mouse thyroid.
Panel B: anti-Thyroid peroxidase showed cytoplasmic and membranous staining on mouse thyroid.
Panel C: anti-PAX8 showed nucleus staining on mouse thyroid.
Panel D: anti-CaSR staining parafollicular cells.
Nuclear DNA was labeled with DAPI (shown in blue).

The section was incubated in three rounds of staining: in the order of ab278525, ab239363 and ab259846 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

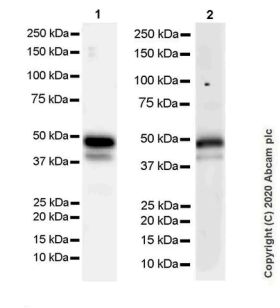


Multiplex immunohistochemistry - Anti-PAX8 antibody [EPR23508-20] (ab239363)

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded mouse thyroid staining of Thyroid Peroxidase/TPO with ab278525 at a 1/5000 (0.109 µg/ml) dilution, PAX8 with ab239363 at 1/2000 (0.254 µg/ml) dilution, and Collagen I with ab270993 at a 1/500 (1.152 µg/ml) dilution, followed by a ready to use secondary antibody Opal Polymer HRP Ms + Rb.
Panel A: merged staining of anti-Thyroid peroxidase (green; Opal™ 520), anti-PAX8 (magenta; Opal™ 690) and anti-Collagen I (gray; Opal™ 570) on mouse thyroid.
Panel B: anti-Thyroid peroxidase showed cytoplasmic and membranous staining on mouse thyroid.
Panel C: anti-PAX8 showed nucleus staining on mouse thyroid.
Panel D: anti-Collagen I staining connective tissues in mouse thyroid.
Nuclear DNA was labeled with DAPI (shown in blue).

The section was incubated in three rounds of staining: in the order of ab278525, ab239363 and ab270993 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Western blot - Anti-PAX8 antibody [EPR23508-20] (ab239363)

Blocking and diluting buffer and concentration: The antibody detects isoform of PAX8
The molecular weight observed is consistent with what has been described in the literature (PMID: 21602887)

This blot was developed using a higher sensitivity ECL substrate.

Fresh lysate was used in this Lane 2.

Exposure time: Lane 1: 127 seconds Lane 2: 59 seconds

All lanes:
Western blot - Anti-PAX8 antibody [EPR23508-20] (ab239363) at 1/1000 dilution

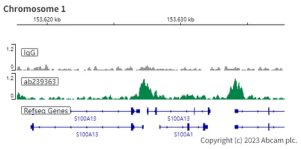
Lane 1:
SK-OV-3 (human ovarian cancer epithelial cell), whole cell lysate at 20 µg

Lane 2:
NIH:OVCAR-3 (human ovary adenocarcinoma epithelial cell), whole cell lysate at 20 µg

Secondary

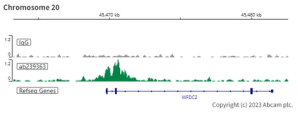
All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/100000 dilution

Predicted band size: 48 kDa



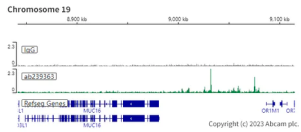
ChIC/CUT&RUN sequencing - Anti-PAX8 antibody [EPR23508-20] (ab239363)

ChIC/CUT&RUN was performed using a pAG-MNase at a final concentration of 700 ng/mL, 2.5 x 10^5 NIH:OVCAR-3 (Human ovary adenocarcinoma epithelial cell) cells and 5 µg of ab239363 [EPR23508-20]. The resulting DNA was sequenced on the Illumina NovaSeq 6000 to a depth of 10 million reads. The negative IgG control ab172730 is also shown. The University of Geneva owns patents relevant to ChIC (Chromatin Immuno-Cleavage) methods."



ChIC/CUT&RUN sequencing - Anti-PAX8 antibody [EPR23508-20] (ab239363)

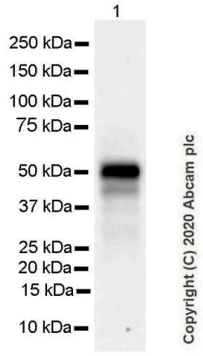
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ChIC/CUT&RUN sequencing - Anti-PAX8 antibody [EPR23508-20] (ab239363)

ChIC/CUT&RUN was performed using a pAG-MNase at a final concentration of 700 ng/mL, 2.5 x 10^5 NIH:OVCAR-3 (Human ovary adenocarcinoma epithelial cell) cells and 5 µg of ab239363 [EPR23508-20]. The resulting DNA was sequenced on the Illumina NovaSeq 6000 to a depth of 10 million reads. The negative IgG control ab172730 is also shown. The University of Geneva owns patents relevant to ChIC (Chromatin Immuno-Cleavage) methods."

Western blot - Anti-PAX8 antibody [EPR23508-20] (ab239363)



Blocking and diluting buffer and concentration: The molecular weight observed is consistent with what has been described in the literature (PMID: 21602887)
This blot was developed using a higher sensitivity ECL substrate.

Exposure time: 3 minutes

All lanes:
Western blot - Anti-PAX8 antibody [EPR23508-20] (ab239363) at 1/1000 dilution

All lanes:
Mouse E18 kidney tissue lysate at 60 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/100000 dilution

Predicted band size: 48 kDa

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