abcam

ab227707

Anti-PAX8 antibody [SP348] - N-terminal

Anti-PAX8 antibody [SP348] - N-terminal (ab227707) is a rabbit monoclonal antibody detecting PAX8 in **Western Blot, Flow Cytometry, IHC-P, ICC/IF, mIHC**. Suitable for **Human**.

- Multiplex IHC validated on the Leica BOND® MAX using Opal reagents
- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb | Advanced Validation | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.1% Sodium azide Constituents: PBS, 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	SP348
Purification technique	Affinity purification Protein A
Concentration	0.406 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

mIHC

Tested

Species	Human
Dilution info	1/200
Notes	-

Predicted

Species	Mouse, Rat, Dog
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1/100
Notes	Primary antibody incubation for 30 minutes at 4°C.

Predicted

Species	Mouse, Rat, Dog
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/100
Notes	Primary antibody incubation for 1 hour at room temperature.

Predicted

Species	Mouse, Rat, Dog
Dilution info	-

Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/100
Notes	Primary antibody incubation for 10 minutes at room temperature. Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Predicted

Species	Mouse, Rat, Dog
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat, Dog
Dilution info	-
Notes	-

ChIC/CUT&RUN-seq

Tested

Species	Human
Dilution info	-

Notes	-

Predicted

Species	Mouse, Rat, Dog
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

Anti-PAX8 antibody [SP348] - N-terminal (ab227707) was developed by Abcam using patented rabbit monoclonal antibody technology and is validated for use in ChIC/CUT&RUN-seq, Flow Cyt ICC/IF, IHC-P, WB and mIHC.

Abcam's high quality manufacturing and validation processes ensure Anti-PAX8 antibody [SP348] - N-terminal (ab227707) has high sensitivity and specificity alongside high lot-to-lot consistency and reproducibility.

Anti-PAX8 antibody [SP348] - N-terminal (ab227707) specifically detects PAX8 (UniProt ID: Q06710; Molecular weight: 49kDa) and is sold in 100 µL, 500 µL and 1 mL selling sizes.

Conjugation-ready, carrier free format available for antibody clone SP348 - ab242429.

Antibody clone SP348 is also available pre-conjugated to a variety of labels for your convenience - Alexa Fluor® 647 (ab313345).

Anti-PAX8 antibody [SP348] - N-terminal (ab227707) is a clone from the portfolio of Spring Bioscience (Roche) SP clones which have been optimised for immunohistochemistry (IHC).

Highly-specific to PAX8. Western blotting data to guarantee specificity to PAX8 with no cross-reactivity with other PAX family members. Validated for CUT&RUN-seq, a key application to map protein-DNA interactions on a genome-wide scale using NGS. A highly-validated antibody for studying PAX8 as a transcription factor, its role in thyroid and renal cancers and epigenetic regulation. This antibody is crucial in cancer research, particularly in understanding PAX8's involvement in tumorigenesis and gene expression and is widely used in studies of embryogenesis and cancers of the Mьllerian duct.

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.

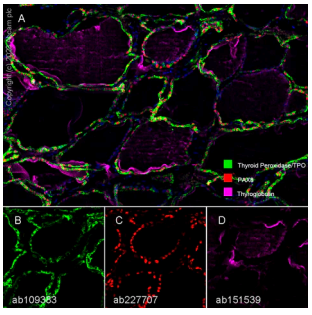
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

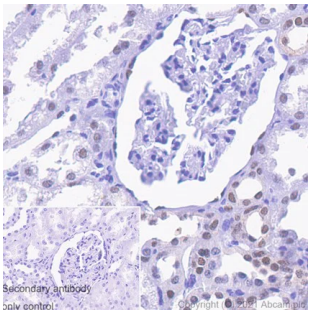
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18 product images



Multiplex immunohistochemistry - Anti-PAX8 antibody [SP348] - N-terminal (ab227707)

Fluorescence multiplex immunohistochemical analysis of Human thyroid gland tissue (Formalin/PFA-fixed paraffin-embedded sections). Panel A: merged staining of anti-Thyroglobulin (ab151539, magenta; Opal™690), anti-Thyroid Peroxidase/TPO (ab109383, green; Opal™520) and anti-PAX8 (ab227707, red; Opal™570) on human thyroid gland. Panel B: anti-Thyroid Peroxidase/TPO stained on cytoplasm of follicular epithelial cells. Panel C: anti-PAX8 stained on nucleus of follicular epithelial cells. Panel D: anti-Thyroglobulin stained on colloid. Opal Polymer HRP Ms + Rb was used as a secondary antibody. The section was incubated in three rounds of staining: in the order of ab151539 at 1/5000 dilution (0.167 µg/ml), ab109383 at 1/1500 dilution (0.072 µg/ml) , and ab227707 at 1/200 dilution (5.22 µg/ml) 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. Image acquisition was performed with Leica SP8 confocal microscope. DAPI (blue) was used as a nuclear counter stain. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

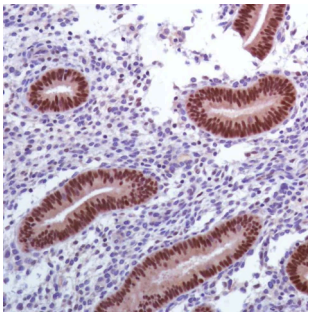


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX8 antibody [SP348] - N-terminal (ab227707)

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

Formalin-fixed, paraffin-embedded human kidney tissue stained for PAX8 using ab227707 at 1/100 dilution in immunohistochemical analysis. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 10 mins.

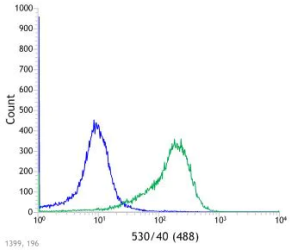
The section is incubated with ab227707 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX8 antibody [SP348] - N-terminal (ab227707)

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

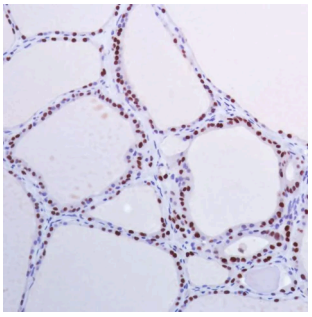
Formalin-fixed, paraffin-embedded human uterus tissue stained for PAX8 using ab227707 at 1/100 dilution in immunohistochemical analysis.



Flow Cytometry - Anti-PAX8 antibody [SP348] - N-terminal (ab227707)

PAX8 Flow Cytometry staining using rabbit Anti-PAX8 antibody

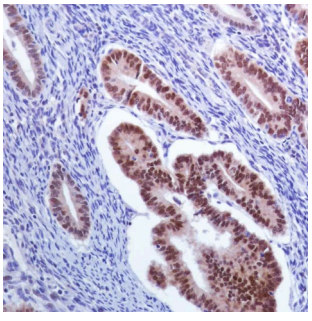
Flow Cytometry analysis of HL-60 (human promyelocytic leukemia cell line) cells, labeling PAX8 with ab227707 at 1/100 dilution (green) compared to a Rabbit IgG negative control (blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX8 antibody [SP348] - N-terminal (ab227707)

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

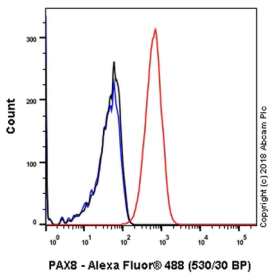
Formalin-fixed, paraffin-embedded human thyroid tissue stained for PAX8 using ab227707 at 1/100 dilution in immunohistochemical analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX8 antibody [SP348] - N-terminal (ab227707)

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

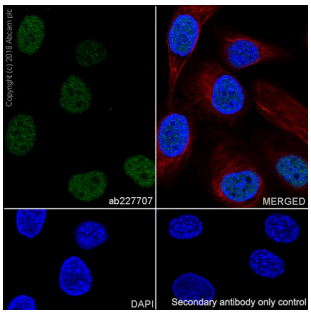
Formalin-fixed, paraffin-embedded human endometrial adenocarcinoma tissue stained for PAX8 using ab227707 at 1/100 dilution in immunohistochemical analysis.



Flow Cytometry - Anti-PAX8 antibody [SP348] - N-terminal (ab227707)

PAX8 Flow Cytometry staining using rabbit Anti-PAX8 antibody

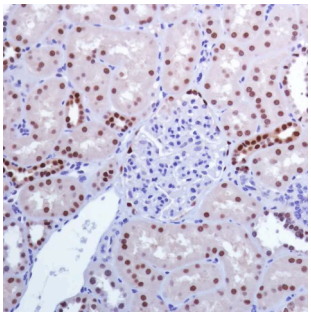
Flow Cytometry analysis of SK-OV-3 (human ovarian cancer epithelial cell) cells labeling PAX8 with purified ab227707 at 1:400 dilution (1.015 µg/ml) - Red. Cells were fixed with 4% paraformaldehyde . A Goat anti rabbit IgG (Alexa Fluor® 488, ab150081) secondary antibody was used at 1:2000 dilution. Isotype control - Rabbit monoclonal IgG (ab172730) - Black. Unlabeled control - Blue.



Immunocytochemistry/ Immunofluorescence - Anti-PAX8 antibody [SP348] - N-terminal (ab227707)

PAX8 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PAX8 antibody

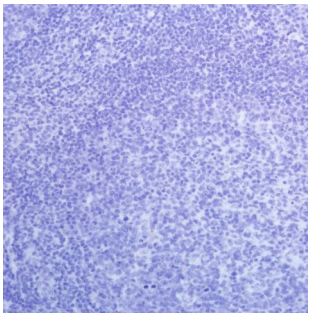
Immunocytochemistry/ Immunofluorescence analysis of SK-OV-3 (human ovarian cancer epithelial cell) cells labeling PAX8 with purified ab227707 at 1:50 (8.1 µg/ml). Cells were fixed in 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. Cells were counterstained with ab195889 Anti-alpha Tubulin 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 nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX8 antibody [SP348] - N-terminal (ab227707)

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

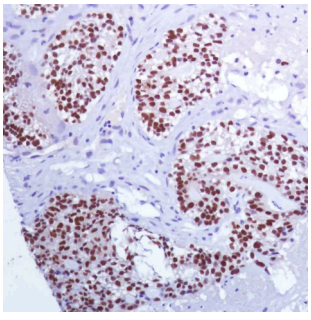
Formalin-fixed, paraffin-embedded human kidney tissue stained for PAX8 using ab227707 at 1/100 dilution in immunohistochemical analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX8 antibody [SP348] - N-terminal (ab227707)

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

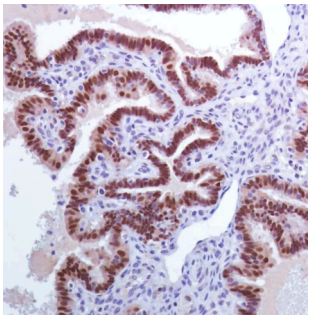
Formalin-fixed, paraffin-embedded human tonsil tissue stained for PAX8 using ab227707 at 1/100 dilution in immunohistochemical analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX8 antibody [SP348] - N-terminal (ab227707)

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

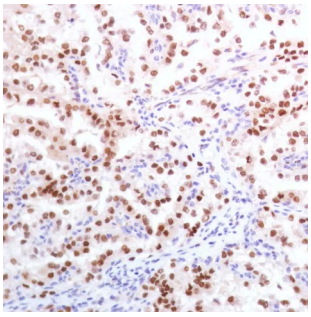
Formalin-fixed, paraffin-embedded human ovarian adenocarcinoma tissue stained for PAX8 using ab227707 at 1/100 dilution in immunohistochemical analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX8 antibody [SP348] - N-terminal (ab227707)

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

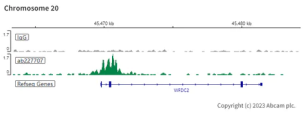
Formalin-fixed, paraffin-embedded human fallopian tube tissue stained for PAX8 using ab227707 at 1/100 dilution in immunohistochemical analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX8 antibody [SP348] - N-terminal (ab227707)

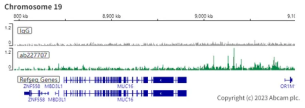
PAX8 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PAX8 antibody

Formalin-fixed, paraffin-embedded human renal cell carcinoma tissue stained for PAX8 using ab227707 at 1/100 dilution in immunohistochemical analysis.



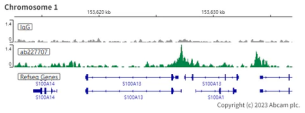
ChIC/CUT&RUN sequencing - Anti-PAX8 antibody [SP348] - N-terminal (ab227707)

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 ab227707 [SP348]. 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."



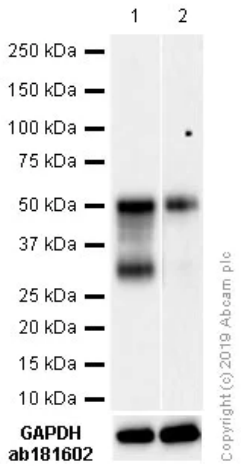
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Western blot - Anti-PAX8 antibody [SP348] - N-terminal (ab227707)

All lanes:
Western blot - Anti-PAX8 antibody [SP348] - N-terminal (ab227707) at 0.398 µg/mL

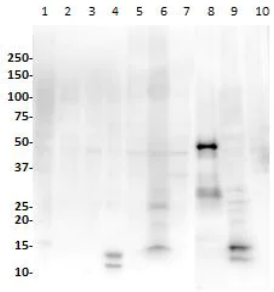
Lane 1:
SK-OV-3 (human ovarian cancer epithelial cell) cell lysate at 20 µg

Lane 2:
human kidney tissue lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 0.05 µg/mL

Predicted band size: 48 kDa



Western blot - Anti-PAX8 antibody [SP348] - N-terminal (ab227707)

All lanes:
Western blot - Anti-PAX8 antibody [SP348] - N-terminal (ab227707) at 1/100 dilution

Lane 1:
PAX1 transfected HEK-293 (human epithelial cel line from embryonic kidney) cell lysate

Lane 2:
PAX2 transfected HEK-293 (human epithelial cel line from embryonic kidney) cell lysate

Lane 3:
PAX3 transfected HEK-293 (human epithelial cel line from embryonic kidney) cell lysate

Lane 4:
PAX4 transfected HEK-293 (human epithelial cel line from embryonic kidney) cell lysate

Lane 5:
PAX5 transfected HEK-293 (human epithelial cel line from embryonic kidney) cell lysate

Lane 6:
PAX6 transfected HEK-293 (human epithelial cel line from embryonic kidney) cell lysate

Lane 7:
PAX7 transfected HEK-293 (human epithelial cel line from embryonic kidney) cell lysate

Lane 8:
PAX8 transfected HEK-293 (human epithelial cel line from embryonic kidney) cell lysate

Lane 9:
PAX9 transfected HEK-293 (human epithelial cel line from embryonic kidney) cell lysate

Lane 10:
Mock transfected HEK-293 (human epithelial cel line from embryonic kidney) cell lysate

Predicted band size: 48 kDa

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