abcam

ab109443

Anti-PAX5 antibody [EPR3730(2)]

Anti-PAX5 antibody [EPR3730(2)] (ab109443) is a rabbit monoclonal antibody detecting PAX5 in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF, ChIP**. Suitable for **Human, Mouse, Rat**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 20 publications

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	EPR3730(2)
Purification technique	Affinity purification Protein A
Dissociation constant	4.45 x 10^{-11} M
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Rat
Dilution info	1/5000
Notes	**For unpurified use at 1/250 - 1/500.** Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Species	Human
Dilution info	1/5000
Notes	**For unpurified use at 1/250 - 1/500.** Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Expected

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

IP

Tested

Species	Mouse
Dilution info	1/20
Notes	-

Species	Human
Dilution info	1/20
Notes	-

Expected

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

ChIP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

WB

Tested

Species	Mouse
Dilution info	1/5000
Notes	**For unpurified use at 1/10000 - 1/50000.**

Species	Human
Dilution info	1/5000
Notes	**For unpurified use at 1/10000 - 1/50000.**

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	1/250

Notes	**For unpurified use at 1/1000.**

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/30
Notes	For unpurified use at 1/10 - 1/100.ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

Target data

See full target information PAX5

Function	Transcription factor that plays an essential role in commitment of lymphoid progenitors to the B-lymphocyte lineage (PubMed:10811620, PubMed:27181361). Fulfills a dual role by repressing B-lineage inappropriate genes and simultaneously activating B-lineage-specific genes (PubMed:10811620, PubMed:27181361). In turn, regulates cell adhesion and migration, induces V(H)-to-D(H)J(H) recombination, facilitates pre-B-cell receptor signaling and promotes development to the mature B-cell stage (PubMed:32612238). Repression of the cohesin-release factor WAPL causes global changes of the chromosomal architecture in pro-B cells to facilitate the generation of a diverse antibody repertoire (PubMed:32612238). (Microbial infection) Plays an essential role in the maintenance of Epstein-Barr virus genome copy number within the host cell by promoting EBNA1/oriP-dependent binding and transcription (PubMed:31941781). Also participates in the inhibition of lytic EBV reactivation by modulating viral BZLF1 activity (PubMed:23678172).

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	Stable for 12 months at -20°C

Notes

What is this antibody validated in?
Anti-PAX5 antibody [EPR3730(2)] (ab109443) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF), ChIP in Human, Mouse, Rat samples.

What is the molecular weight of PAX5?
Anti-PAX5 [EPR3730(2)] (ab109443) specifically detects a band for PAX5 (UniProt: Q02548) at a molecular weight of 42kDa.

Trusted by the scientific community
Anti-PAX5 [EPR3730(2)] (ab109443) was first used in a scientific publication in 2011 and has been cited over 20 times in peer-reviewed journals.

Other related products
We have a range of other formats of antibody clone [EPR3730(2)] also available for your convenience: ab109443, Carrier free - ab193556, HRP - ab202837, Biotin - ab202956, Alexa Fluor® 647 - ab246753, PE - ab246754, Alexa Fluor® 488 - ab320332, Alexa Fluor® 555 - ab320333, Alexa Fluor® 594 - ab320334, APC - ab320335, Alexa Fluor® 750 - ab320952

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	PAX5 also called B-cell-specific activator protein (BSAP) plays an important role in regulating gene expression during B-cell development. PAX5 is a transcription factor with an approximate mass of 50-55 kDa. It expresses mainly in B cells and in certain regions of the brain and testis. This protein binds DNA and controls the transcription of genes necessary for B-cell commitment and identity. Through processes like alternative splicing PAX5 generates multiple isoforms that contribute to various functional roles in its expressed locations.
Biological function summary	PAX5 regulates the differentiation and maintenance of B-lymphocytes. It controls various genes critical for B-cell lineage commitment while repressing those involved in other lineages like T-cells and myeloid cells. PAX5 is part of a larger transcriptional complex interacting with other transcription factors to perform its function. During B-cell maturation PAX5 activates a specific gene set that helps shape the B-cell receptor repertoire a process important for effective immune responses.
Pathways	PAX5 integrates into key pathways such as the B-cell receptor signaling and JAK-STAT pathways. These pathways regulate processes like cell proliferation differentiation and apoptosis. In the B-cell receptor signaling PAX5 works alongside proteins like CD19 and BTK facilitating the transmission of activation signals necessary for B-cell survival. Connections in the JAK-STAT pathway involve interactions that promote gene expression changes necessary for B-cell functional activity further modulating the immune system's readiness.
Associated diseases and disorders	PAX5 is significantly associated with B-cell acute lymphoblastic leukemia (B-ALL) and non-Hodgkin lymphoma. In B-ALL mutations or deletions in PAX5 often lead to impaired B-cell development and uncontrolled cell proliferation. PAX5 mutations influence proteins like EBF1 and IL7R which are pivotal in B-cell progenitor activity and leukemogenesis. abnormalities in PAX5 expression or function can disrupt normal immune function leading to B-cell associated cancers and impairing immune surveillance highlighting its importance in maintaining immune system health.

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.

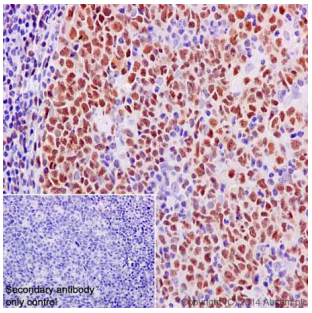
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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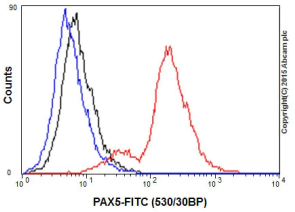
19 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX5 antibody [EPR3730(2)] (ab109443)

PAX5 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PAX5 antibody

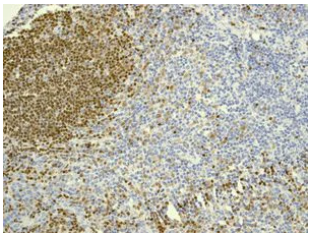
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human tonsil tissue labelling PAX5 with purified ab109443 at 1/1000. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. ab97051, a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.



Flow Cytometry (Intracellular) - Anti-PAX5 antibody [EPR3730(2)] (ab109443)

PAX5 Flow Cytometry (Intracellular) staining using rabbit Anti-PAX5 antibody

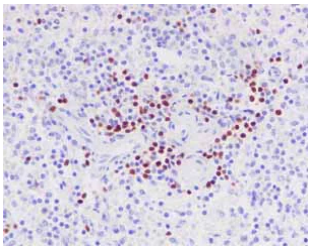
Intracellular Flow Cytometry analysis of Ramos cells labelling PAX5 with purified ab109443 at 1/30 (red). Cells were fixed with 80% methanol. A FITC-conjugated goat anti-rabbit IgG (1/150) was used as the secondary antibody. Black - Isotype control, rabbit monoclonal IgG. Blue - Unlabelled control, cells without incubation with primary and secondary antibodies.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX5 antibody [EPR3730(2)] (ab109443)

PAX5 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PAX5 antibody

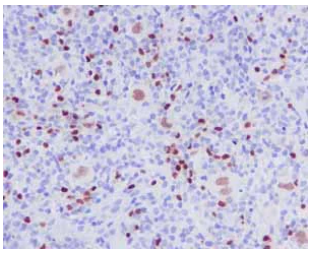
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human tonsil tissue labelling PAX5 with unpurified ab109443.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX5 antibody [EPR3730(2)] (ab109443)

PAX5 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PAX5 antibody

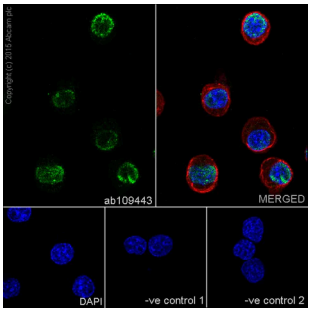
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human normal spleen tissue labelling PAX5 with unpurified ab109443.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX5 antibody [EPR3730(2)] (ab109443)

PAX5 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PAX5 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human Hodgkin's lymphoma tissue labelling PAX5 with unpurified ab109443.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

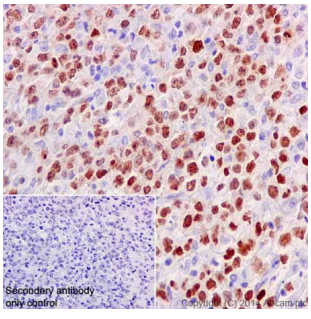


Immunocytochemistry/ Immunofluorescence - Anti-PAX5 antibody [EPR3730(2)] (ab109443)

PAX5 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PAX5 antibody

Immunocytochemistry/Immunofluorescence analysis of Ramos cells labelling PAX5 with purified ab109443 at 1/250. Cells were fixed with 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. ab150077, an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/500) was used as the secondary antibody. DAPI (blue) was used as the nuclear counterstain. ab7291, a mouse anti-tubulin (1/1000) and ab150120, an Alexa Fluor® 594-conjugated goat anti-mouse IgG (1/500) were also used.
Control 1: primary antibody (1/250) and secondary antibody, ab150120, an Alexa Fluor® 594-conjugated goat anti-mouse IgG (1/500).

Control 2: ab7291 (1/1000) and secondary antibody, ab150077, an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/500).

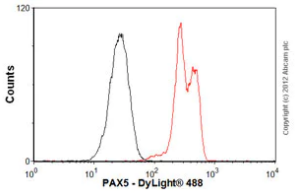


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX5 antibody [EPR3730(2)] (ab109443)

PAX5 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PAX5 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human B-cell lymphoma tissue labelling PAX5 with purified ab109443 at 1/1000. Heat mediated antigen retrieval

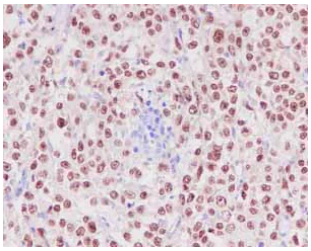
was performed using Tris/EDTA buffer pH 9. ab97051, a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.



Flow Cytometry (Intracellular) - Anti-PAX5 antibody [EPR3730(2)] (ab109443)

PAX5 Flow Cytometry (Intracellular) staining using rabbit Anti-PAX5 antibody

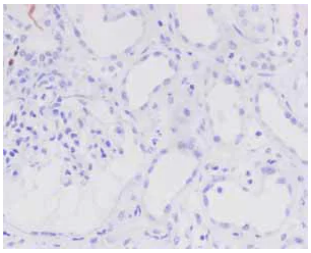
Overlay histogram showing Ramos cells stained with unpurified ab109443 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (unpurified ab109443, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-rabbit IgG (H+L) (ab96899) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX5 antibody [EPR3730(2)] (ab109443)

PAX5 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PAX5 antibody

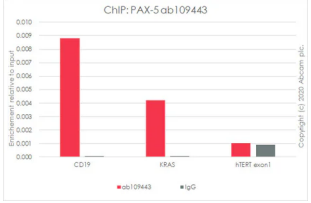
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human diffuse B-cell lymphoma tissue labelling PAX5 with unpurified ab109443.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX5 antibody [EPR3730(2)] (ab109443)

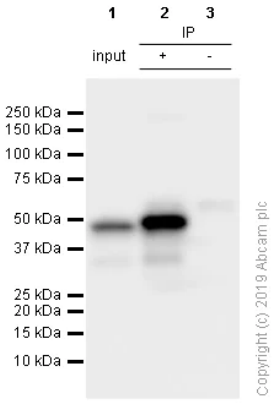
PAX5 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PAX5 antibody

ab109443 showing negative staining in Normal human kidney tissue.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



ChIP - Anti-PAX5 antibody [EPR3730(2)] (ab109443)

Chromatin was prepared from Ramos cells according to the Abcam Dual-X-ChIP protocol. Cells were fixed with 1.5 mM EGS for 30mins and then formaldehyde for 10min.
The ChIP was performed with 25 µg of chromatin, 5 µg of abzz (red), or 5 µg of rabbit normal IgG ab172730 (gray) and 25 µl of Protein A/G Dynabeads. The immunoprecipitated DNA was quantified by real time PCR (Sybr green approach).
Primers and probes are from paper PMID:19806612



Immunoprecipitation - Anti-PAX5 antibody [EPR3730(2)] (ab109443)

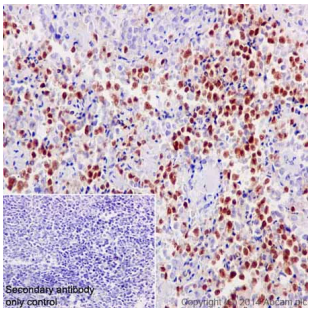
ab109443 (purified) at 1/20 dilution immunoprecipitating PAX5 in Ramos (Human Burkitt's lymphoma B lymphocyte) whole cell lysate 10 µg.

Lane 1 (input): Ramos (Human Burkitt's lymphoma B lymphocyte) whole cell lysate 10 µg
Lane 2 (+): ab109443 & Ramos whole cell lysate
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab109443 in Ramos whole cell lysate

For western blotting, ab109443 at 1/500 dilution (0.268 µg/mL) and veriBlot for IP secondary antibody (HRP) (ab131366) at 1/1000 dilution was used.

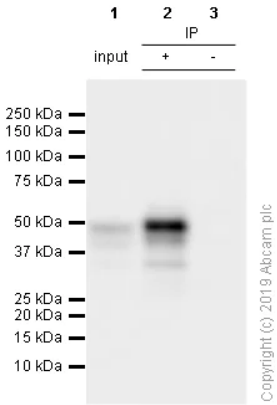
Blocking and diluting buffer: 5% NFDM /TBST.
All lanes:
Immunoprecipitation - Anti-PAX5 antibody [EPR3730(2)] (ab109443)

Predicted band size: 42 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX5 antibody [EPR3730(2)] (ab109443)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat spleen tissue labelling PAX5 with purified ab109443 at 1/1000. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. ab97051, a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.

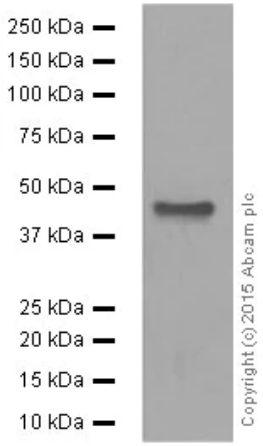


Immunoprecipitation - Anti-PAX5 antibody [EPR3730(2)] (ab109443)

ab109443 (purified) at 1/20 dilution immunoprecipitating PAX5 in mouse spleen lysate 10 µg.
Lane 1 (input): mouse spleen lysate 10 µg
Lane 2 (+): ab109443 & mouse spleen lysate
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab109443 in mouse spleen lysate
For western blotting, ab109443 at 1/500 dilution (0.268 µg/mL) and veriBlot for IP secondary antibody (HRP) (ab131366) at 1/1000 dilution was used.

Blocking and diluting buffer: 5% NFDM /TBST.
All lanes:
Immunoprecipitation - Anti-PAX5 antibody [EPR3730(2)] (ab109443)

Predicted band size: 42 kDa



Western blot - Anti-PAX5 antibody [EPR3730(2)] (ab109443)

PAX5 Western blot staining of Ramos cell lysate using rabbit Anti-PAX5 antibody

Blocking and dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-PAX5 antibody [EPR3730(2)] (ab109443) at 1/20000 dilution

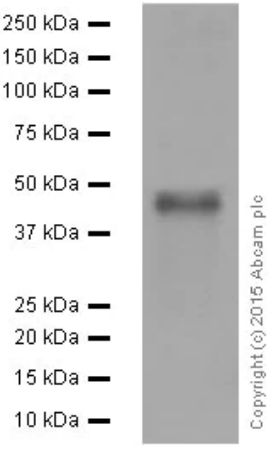
All lanes:
Ramos cell lysate at 20 µg

Secondary

All lanes:
Peroxidase-conjugated goat anti-rabbit IgG, (H+L) at 1/1000 dilution

Predicted band size: 42 kDa

Observed band size: 45 kDa



Western blot - Anti-PAX5 antibody [EPR3730(2)] (ab109443)

Blocking and dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-PAX5 antibody [EPR3730(2)] (ab109443) at 1/5000 dilution

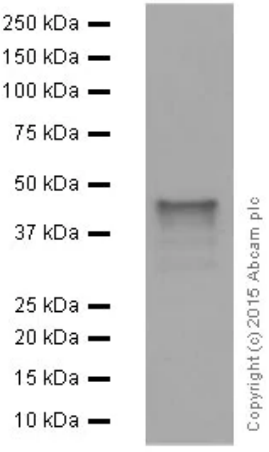
All lanes:
Human tonsil tissue lysate at 20 µg

Secondary

All lanes:
Peroxidase-conjugated goat anti-rabbit IgG, (H+L) at 1/5000 dilution

Predicted band size: 29 kDa, 42 kDa

Observed band size: 28 kDa, 45 kDa



Western blot - Anti-PAX5 antibody [EPR3730(2)] (ab109443)

Blocking and dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-PAX5 antibody [EPR3730(2)] (ab109443) at 1/5000 dilution

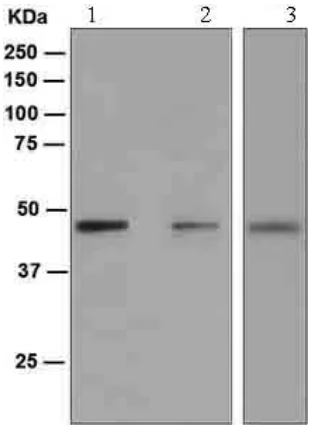
All lanes:
Mouse spleen tissue lysate at 20 µg

Secondary

All lanes:
Peroxidase-conjugated goat anti-rabbit IgG, (H+L) at 1/1000 dilution

Predicted band size: 42 kDa

Observed band size: 45 kDa



Western blot - Anti-PAX5 antibody [EPR3730(2)] (ab109443)

All lanes:
Western blot - Anti-PAX5 antibody [EPR3730(2)] (ab109443) at 1/10000 dilution

Lane 1:
Ramos cell lysate at 10 µg

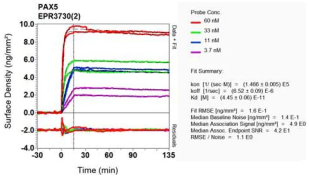
Lane 2:
Human tonsil tissue lysate at 10 µg

Lane 3:
Daudi cell lysates at 10 µg

Secondary

All lanes:
Standard HRP labelled goat anti-rabbit IgG at 1/2000 dilution

Predicted band size: 42 kDa



OI-RD Scanning - Anti-PAX5 antibody [EPR3730(2)] (ab109443)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.

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