abcam

ab227635

Anti-PAX5 antibody [SP34] - ChIP Grade

Anti-PAX5 antibody [SP34] - ChIP Grade (ab227635) is a rabbit monoclonal antibody detecting PAX5 in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ChIP**. Suitable for **Human, Rat**.

- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.6 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	SP34
Purification technique	Affinity purification Protein A/G
Concentration	0.119 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

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
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/20
Notes	-

Expected

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

WB

Tested

Species	Human
Dilution info	0.172 µg/mL
Notes	-

Expected

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

IHC-P

Tested

Species	Rat
Dilution info	1/50
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Species	Human
Dilution info	1/50
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

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	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-PAX5 antibody [SP34] - ChIP Grade (ab227635) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Flow Cytometry (Flow Cyt), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), ChIP in Human, Rat samples.

What is the molecular weight of PAX5?
Anti-PAX5 [SP34] - ChIP Grade (ab227635) specifically detects a band for PAX5 (UniProt: Q02548) at a molecular weight of 42kDa.

Collaboration
Anti-PAX5 [SP34] - ChIP Grade (ab227635) is a clone from the portfolio of Spring Bioscience (Roche) SP clones which have been optimised for immunohistochemistry (IHC).

Other related products
We have a range of other formats of antibody clone [SP34] also available for your convenience: ab227635, Carrier free - ab237773, ab279606, APC - ab310843, PE - ab310914, Alexa Fluor® 488 - ab310945, Alexa Fluor® 647 - ab311063, Alexa Fluor® 594 - ab311648, Alexa Fluor® 568 - ab312921, Alexa Fluor® 555 - ab313133, Alexa Fluor® 750 - ab321430

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

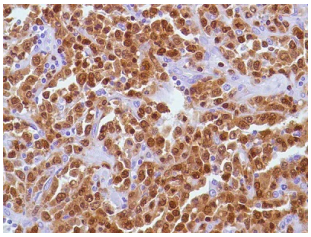
We do not recommend this combination. It is not covered by our product promise.

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.

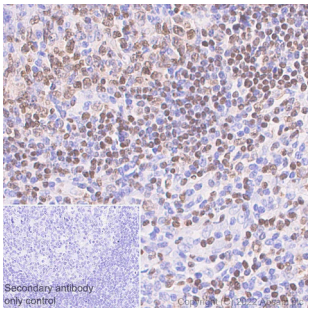
8 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX5 antibody [SP34] - ChIP Grade (ab227635)

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

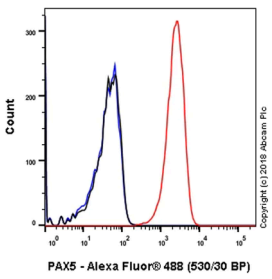
Immunohistochemical analysis of Human B cell lymphoma tissue staining PAX5 using ab227635.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX5 antibody [SP34] - ChIP Grade (ab227635)

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

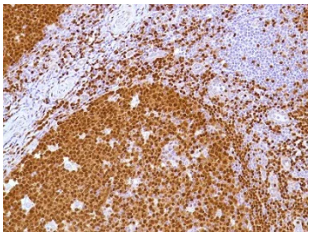
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human tonsil tissue sections labeling PAX5 with ab227635 at 1/50 dilution. Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 10 mins. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Hematoxylin was used as a counterstain. Nuclear staining on the human tonsil, performed on a Leica Biosystems BOND™ RX instrument.
Paraffin-embedded tissue section was incubated with ab227635 for 30 minutes at room temperature. Immunostaining was performed on a Leica Biosystems BOND® RX instrument.



Flow Cytometry (Intracellular) - Anti-PAX5 antibody [SP34] - ChIP Grade (ab227635)

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

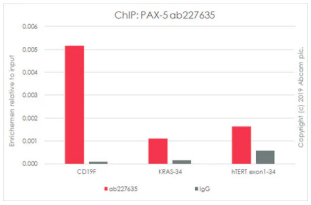
Flow Cytometry analysis of Ramos(Human Burkitt's lymphoma B lymphocyte) cells labeling PAX5 with purified ab227635 at 1:20 dilution (8.6 µg/ml) Red. Cells were fixed with 4% paraformaldehyde . A Goat anti rabbit IgG (Alexa Fluor® 488, ab150081) secondary antibody was used at 1:2000 dilution. Isotype control - Rabbit monoclonal IgG (ab172730) / Black. Unlabeled control - Unlabelled cells / Blue.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX5 antibody [SP34] - ChIP Grade (ab227635)

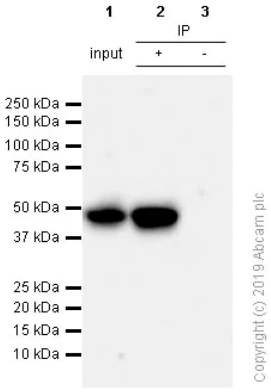
PAX5 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PAX5 antibody

Immunohistochemical analysis of Human tonsil tissue labeling PAX5 using ab227635.



ChIP - Anti-PAX5 antibody [SP34] - ChIP Grade (ab227635)

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 ab227635 (red), or 5 µg of rabbit normal IgG ab172730 (gray) and 20 µl of Protein A/G sepharose beads. The immunoprecipitated DNA was quantified by real time PCR (Taqman approach for active and inactive loci, Sybr green approach for heterochromatic loci).
Primers and probes are commercial primers from Paper (PMID: 19806612)



Immunoprecipitation - Anti-PAX5 antibody [SP34] - ChIP Grade (ab227635)

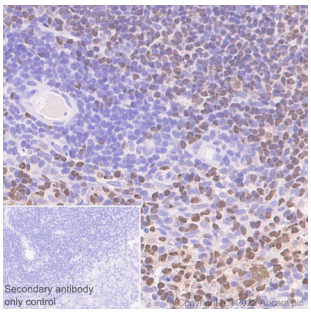
ab227635 (purified) at 1/20 dilution immunoprecipitating PAX5 in Ramos whole cell lysate.

Lane 1 (input): Ramos(Human Burkitt's lymphoma B lymphocyte) whole cell lysate 10µg
Lane 2 (+): ab227635 & Ramos whole cell lysate
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab227635 in Ramos whole cell lysate

For western blotting, ab227648 (purified at 1/500 dilution (0.344 µg/ml) and veriBlot for IP secondary antibody (HRP) (ab131366) at 1/1000 dilution were used.

Blocking and diluting buffer: 5% NFDM /TBST .
All lanes:
Immunoprecipitation - Anti-PAX5 antibody [SP34] - ChIP Grade (ab227635)

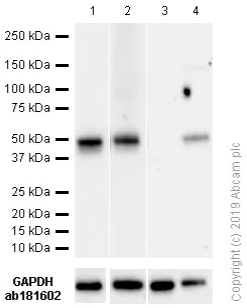
Predicted band size: 42 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX5 antibody [SP34] - ChIP Grade (ab227635)

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

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Rat spleen tissue sections labeling PAX5 with ab227635 at 1/50 dilution. Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 10 mins. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Hematoxylin was used as a counterstain. Nuclear staining on the Rat spleen, performed on a Leica Biosystems BOND™ RX instrument.
Paraffin-embedded tissue section was incubated with ab227635 for 30 minutes at room temperature. Immunostaining was performed on a Leica Biosystems BOND® RX instrument.



Western blot - Anti-PAX5 antibody [SP34] - ChIP Grade (ab227635)

Blocking/Diluting buffer and concentration: 5% NFDM /TBST
All lanes:
Western blot - Anti-PAX5 antibody [SP34] - ChIP Grade (ab227635) at 0.172 µg/mL

Lane 1:
Ramos (Human Burkitt's lymphoma B lymphocyte) cell lysate at 20 µg

Lane 2:
Daudi (Human Burkitt's lymphoma lymphoblast) cell lysate at 20 µg

Lane 3:
Jurkat (Human T cell leukemia T lymphocyte) cell lysate at 20 µg

Lane 4:
U-937 (Human histiocytic lymphoma monocyte) cell lysate at 20 µg

Secondary

Lane 1:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 0.05 µg

Lanes 2 - 4:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 0.05 µg/mL

Predicted band size: 42 kDa

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