abcam

ab183575

Anti-PAX5 antibody

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 0.01% BSA
Form	Liquid
Clonality	Polyclonal
Immunogen	Recombinant Fragment Protein within Human PAX5. The exact immunogen used to generate this antibody is proprietary information. Database link Q02548
Purification technique	Affinity purification Protein G
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	2-5 µg/mg of lysate
Notes	-

Expected

Species	Mouse

Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1/50
Notes	ab171870 - Rabbit polyclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

WB

Tested

Species	Human
Dilution info	1/500 - 1/2000
Notes	-

Species	Mouse
Dilution info	1/500 - 1/2000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/200
Notes	-

Expected

Species	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	Blue Ice
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

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

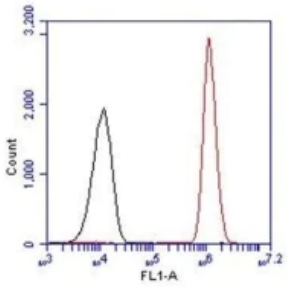
We do not recommend this combination. It is not covered by our product promise.

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.

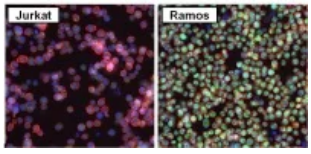
4 product images



Flow Cytometry - Anti-PAX5 antibody (ab183575)

PAX5 Flow Cytometry staining using rabbit Anti-PAX5 antibody

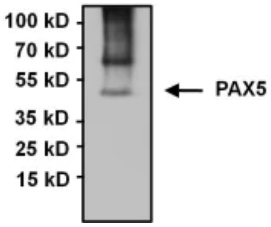
Flow cytometry analysis of PAX5 (red histogram) on Ramos cells. Cells were harvested, fixed with 4% formaldehyde, permeabilized, washed with PBS, and incubated with ab183575 at a 1/50 dilution or with PBS alone (black histogram) for 1 hour at room temperature. For flow cytometry analysis, 30-minute incubation with DyLight 488 goat anti-rabbit IgG secondary antibody was performed. 30,000 cells were acquired for analysis.



Immunocytochemistry/ Immunofluorescence - Anti-PAX5 antibody (ab183575)

PAX5 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PAX5 antibody

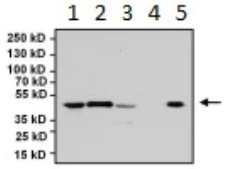
Immunofluorescent analysis of PAX5 (green) in Ramos and negative control Jurkat cells. Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature. Cells were blocked with 2% Blocker BSA for 15 minutes at room temperature. Cells were probed with ab183575 at a dilution of 1/100 for at least 1 hour at room temperature, washed with PBS, and incubated with a DyLight 488-conjugated goat anti-rabbit IgG secondary antibody at a dilution of 1/200 for 30 minutes at room temperature. F-Actin (red) was stained with DyLight-554 Phalloidin and nuclei (blue) were stained with Hoechst 33342 dye.



Immunoprecipitation - Anti-PAX5 antibody (ab183575)

Immunoprecipitation of PAX5 was performed using Raji whole cell lysates. Antigen-antibody complexes were formed by incubating 75 ug of lysate with 5ug of ab183575 overnight on a rocking platform at 4°C. The immune complexes were captured on 50ul Protein A/G Agarose, washed extensively, and eluted with 5X Lane Marker Reducing Sample Buffer. Samples was resolved on a 4-20% Tris-HCl polyacrylamide gel, transferred to a PVDF membrane, and blocked with 5% BSA/TBS-0.1%Tween-20 for 1 hour. The membrane was probed with ab183575 at a dilution of 1/1000 overnight rotating at 4°C. Membranes were washed in TBST, and probed with an IP Detection Reagent at a dilution of 1/1000 for at least one hour. Chemiluminescent detection was performed.
All lanes:
Immunoprecipitation - Anti-PAX5 antibody (ab183575)

Predicted band size: 42 kDa



Western blot - Anti-PAX5 antibody (ab183575)

All lanes:
Western blot - Anti-PAX5 antibody (ab183575) at 1/1000 dilution

Lane 1:
Ramos whole cell lysate at 75 µg

Lane 2:
Daudi whole cell lysate at 75 µg

Lane 3:
Raji whole cell lysate at 75 µg

Lane 4:
Jurkat whole cell lysate at 75 µg

Lane 5:
A20 whole cell lysate at 75 µg

Secondary

All lanes:
Goat anti rabbit HRP at 1/500 dilution

Predicted band size: 42 kDa

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