

Technical Data Sheet

PE-CF594 Rat Anti-Pax-5

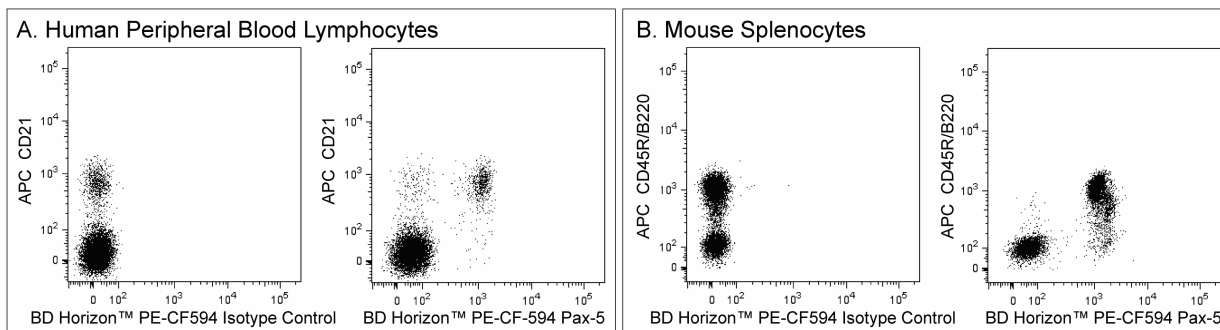
Product Information

Material Number:	562815
Alternate Name:	Pax5, PAX5, KLP, BSAP, EBB-1; B-cell-specific transcription factor
Size:	50 µg
Concentration:	0.2 mg/ml
Clone:	1H9
Immunogen:	Recombinant Mouse Pax-5 protein containing aa 154-284
Isotype:	Rat IgG2a, κ
Reactivity:	QC Testing: Mouse Tested in Development: Human
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The 1H9 monoclonal antibody clone specifically binds to human and mouse Paired box protein Pax-5. Pax-5 is a ~50 kDa protein that is also known as B-cell-specific transcription factor and B cell specific activator protein (BSAP). Pax-5 is a member of the paired box (Pax) family of transcription factors. It is expressed in pro-B, pre-B and mature B cells. Through the Groucho family of co-repressors, Pax-5 likely functions as a transcriptional repressor of non-B-lymphoid genes during the B cell commitment process. In the early stages of B cell development, Pax-5 influences the expression of several B-cell-specific genes, such as CD19 and CD20 and maintains B cell identity. Pax-5 suppression is involved in the upregulation of Blimp-1 leading to the development of Pax-5-negative plasma cells. Pax-5 mRNA is transiently detected in the mesencephalon and spinal cord during embryogenesis. Expression then shifts to the fetal liver and correlates with the onset of B lymphopoiesis. Altered forms and expression patterns of Pax-5 have been associated with some lymphoid and nonlymphoid cancers.

This antibody is conjugated to BD Horizon™ PE-CF594, which has been developed exclusively by BD Biosciences as a better alternative to PE-Texas Red®. PE-CF594 excites and emits at similar wavelengths to PE-Texas Red® yet exhibits improved brightness and spectral characteristics. Due to PE having maximal absorption peaks at 496 nm and 564 nm, PE-CF594 can be excited by the blue (488-nm), green (532-nm) and yellow-green (561-nm) lasers and can be detected with the same filter set as PE-Texas Red® (eg 610/20-nm filter).



Multicolor flow cytometric analysis of Pax-5 expression in human and mouse leucocytes. Human peripheral blood mononuclear cells (PBMC) and BALB/c mouse splenic leucocytes were fixed and permeabilized using the BD Pharmingen™ Transcription Factor Buffer Set (Cat. No. 562574/562725). The cells were then stained with either BD Horizon™ PE-CF594 Rat Anti-Mouse Pax-5 antibody (Cat. No. 562815) or BD Horizon™ PE-CF594 Rat IgG2a, κ Isotype Control (Cat. No. 562302). The PBMC were counterstained with APC Mouse Anti-Human CD21 antibody (Cat. No. 561767/561357/559867). The mouse splenic leucocytes were counterstained with APC Rat Anti-Mouse CD45R/B220 antibody (Cat. No. 553092/561880). Flow cytometric analysis was performed using a BD LSR™ II Flow Cytometer System.

Panel A. Human Peripheral Blood Lymphocytes: The two-color flow cytometric dot plots show the correlated expression patterns of Ig Isotype control staining (Left Plot) and Pax-5 (Right Plot) versus CD21 for events with the forward and side light-scatter characteristics of intact human peripheral blood lymphocytes.

Panel B. Mouse Splenocytes: The dot plots show the coexpression patterns of Ig Isotype control staining (Left Plot) and Pax-5 (Right Plot) versus CD45R/B220 for events with the light-scatter characteristics of intact mouse splenocytes.

Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated with BD Horizon™ PE-CF594 under optimum conditions, and unconjugated antibody and free PE-CF594 were removed.

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Application Notes

Application

Intracellular staining (flow cytometry)

Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 ml	(none)
562302	PE-CF594 Rat IgG2a, κ Isotype Control	0.1 mg	R35-95
562574	Transcription Factor Buffer Set	100 tests	(none)
562725	Transcription Factor Buffer Set	25 tests	(none)
561767	APC Mouse Anti-Human CD21	25 tests	B-ly4
561357	APC Mouse anti-Human CD21	50 tests	B-ly4
559867	APC Mouse Anti-Human CD21	100 tests	B-ly4
553092	APC Rat Anti-Mouse CD45R/B220	0.1 mg	RA3-6B2
561880	APC Rat Anti-Mouse CD45R/B220	25 μ g	RA3-6B2

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
3. An isotype control should be used at the same concentration as the antibody of interest.
4. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
5. Please observe the following precautions: Absorption of visible light can significantly alter the energy transfer occurring in any tandem fluorochrome conjugate; therefore, we recommend that special precautions be taken (such as wrapping vials, tubes, or racks in aluminum foil) to prevent exposure of conjugated reagents, including cells stained with those reagents, to room illumination.
6. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
7. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
8. Texas Red is a registered trademark of Molecular Probes, Inc., Eugene, OR.
9. CFTM is a trademark of Biotium, Inc.
10. When excited by the yellow-green (561-nm) laser, the fluorescence may be brighter than when excited by the blue (488-nm) laser.
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12. Because of the broad absorption spectrum of the tandem fluorochrome, extra care must be taken when using multi-laser cytometers, which may directly excite both PE and CFTM594.

References

Adams B, Dorfler P, Aguzzi A, et al. Pax-5 encodes the transcription factor BSAP and is expressed in B lymphocytes, the developing CNS, and adult testis. *Genes Dev.* 1992; 6(9):1589-1607. (Biology)

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McManus S, Ebert A, Salvaggio G, Medvedovic J, Sun Q, Tamir I, Jaritz M, Tagoh H, Busslinger M. The transcription factor Pax5 regulates its target genes by recruiting chromatin-modifying proteins in committed B cells. *EMBO J.* 2011; 30(12):2388-2404. (Clone-specific: Western blot)

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