Technical Data Sheet

PE-CF594 Mouse Anti-XBP-1S

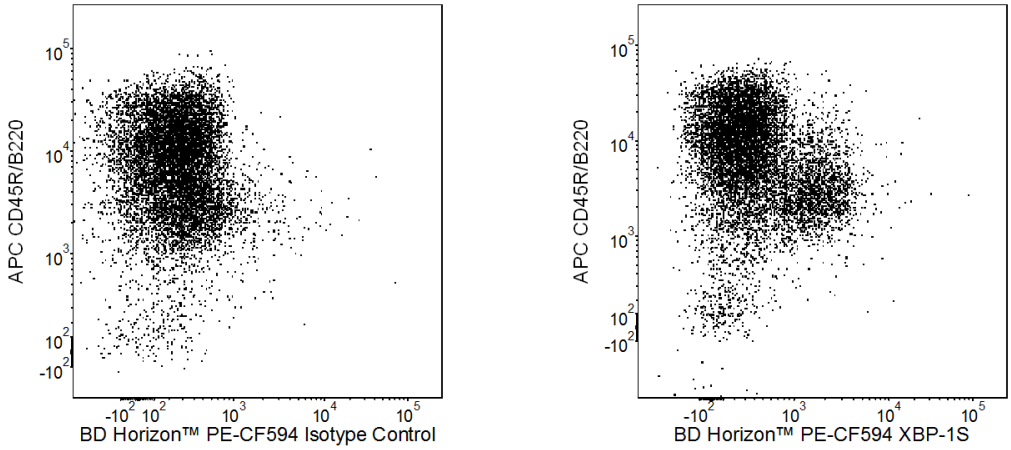
Product Information

Material Number:	**562820**
Alternate Name:	XBP1; X-box binding protein 1; TREB5; Tax-responsive element-binding
Size:	50 tests
Vol. per Test:	5 µl
Clone:	Q3-695
Immunogen:	Human XBP-1S Recombinant Protein
Isotype:	Mouse IgG1, κ
Reactivity:	QC Testing: Mouse Tested in Development: Human
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The Q3-695 monoclonal antibody specifically binds to XBP-1S, the spliced isoform of X-box binding protein 1 (XBP-1). XBP-1S is generated by cells that undergo an unfolded protein response, ie, cells responding to the accumulation of unfolded proteins in the endoplasmic reticulum. It plays important roles as a transcription factor in a number of important cellular processes including the regulation of MHC class II genes, differentiation of plasma cells, immunoglobulin secretion and hepatocyte growth.

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).



Two-color flow cytometric analysis of XBP-1S expression in activated mouse splenocytes. *Mouse splenic leucocytes were stimulated with lipopolysaccharide (LPS; Sigma L-3137; 1 µg/ml) for 4 days (37°C). Cells were harvested, preincubated with Purified Rat Anti-Mouse CD16/CD32 antibody (Mouse BD Fc Block™) (Cat. No. 553141/553142) and then fixed and permeabilized using the BD Pharmingen™ Transcription Factor Buffer Set (Cat. No. 562574/562725). The cells were stained with APC Rat Anti-Mouse CD45R/B220 antibody (Cat. No. 553092/561880) and either BD Horizon™ PE-CF594 Mouse IgG1, κ Isotype Control (Cat. No. 562292; Left Panel) or BD Horizon™ PE-CF594 Mouse Anti-XBP-1S antibody (Cat. No. 562820). Two-color flow cytometric dot plots show the correlated expression of CD45R/B220 versus XBP-1S (or Ig Isotype control staining) for gated events with the forward and side light-scatter characteristics of intact activated splenocytes. Flow cytometric analysis was performed using a BD™ LSR II Flow Cytometer System.*

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)
562292	PE-CF594 Mouse IgG1, κ Isotype Control	0.1 mg	X40
562574	Transcription Factor Buffer Set	100 tests	(none)
562725	Transcription Factor Buffer Set	25 tests	(none)
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.1 mg	2.4G2
553142	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.5 mg	2.4G2
553092	APC Rat Anti-Mouse CD45R/B220	0.1 mg	RA3-6B2
561880	APC Rat Anti-Mouse CD45R/B220	25 µg	RA3-6B2

Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1 × 10^6 cells in a 100-µl experimental sample (a test).
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. 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.
5. Species testing during development may have been performed with a different format of the same clone. Selected applications have been tested for cross-reactivity.
6. 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.
7. Texas Red is a registered trademark of Molecular Probes, Inc., Eugene, OR.
8. CF™ is a trademark of Biotium, Inc.
9. When excited by the yellow-green (561-nm) laser, the fluorescence may be brighter than when excited by the blue (488-nm) laser.
10. This product is provided under an Agreement between BIOTIUM and BD Biosciences. The manufacture, use, sale, offer for sale, or import of this product is subject to one or more patents or pending applications owned or licensed by Biotium, Inc. This product, and only in the amount purchased by buyer, may be used solely for buyer's own internal research, in a manner consistent with the accompanying product literature. No other right to use, sell or otherwise transfer (a) this product, or (b) its components is hereby granted expressly, by implication or by estoppel. This product is for research use only. Diagnostic uses require a separate license from Biotium, Inc. For information on purchasing a license to this product including for purposes other than research, contact Biotium, Inc., 3159 Corporate Place, Hayward, CA 94545, Tel: (510) 265-1027. Fax: (510) 265-1352. Email: btinfo@biotium.com.
11. 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 CF™594.
12. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
13. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Gass JN, Gifford NM, Brewer JW. Activation of an unfolded protein response during differentiation of antibody-secreting B cells. *J Biol Chem.* 2002; 277(50):49047-49054. (Biology)

Iwakoshi NN, Lee AH, Vallabhajosyula P, Otipoby KL, Rajewsky K, Glimcher LH. Plasma cell differentiation and the unfolded protein response intersect at the transcription factor XBP-1. *Nat Immunol.* 2003; 4(4):321-329. (Biology)

Yoshida H, Matsui T, Yamamoto A, Okada T, Mori K. XBP1 mRNA is induced by ATF6 and spliced by IRE1 in response to ER stress to produce a highly active transcription factor. *Cell.* 2001; 107(7):881-891. (Biology)

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