

## Technical Data Sheet

## PE-CF594 Mouse Anti-Human CD110

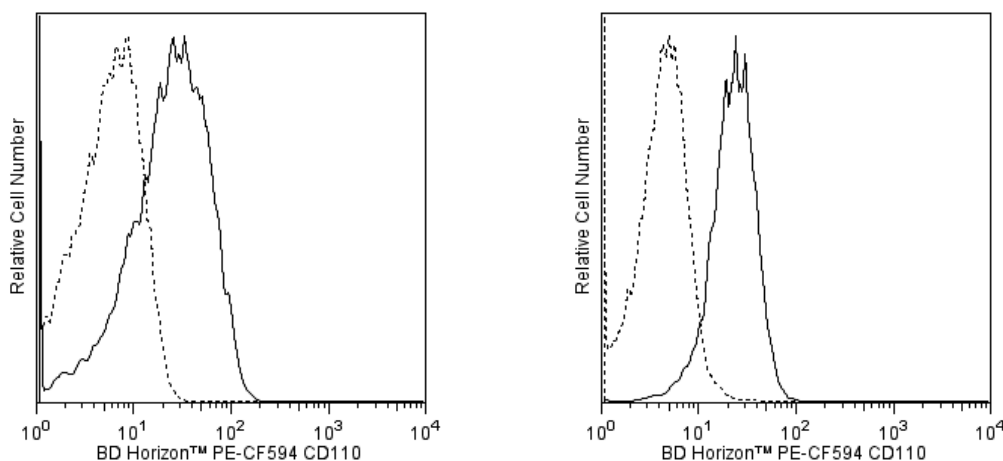
## Product Information

|                         |                                                                                        |
|-------------------------|----------------------------------------------------------------------------------------|
| <b>Material Number:</b> | <b>562416</b>                                                                          |
| <b>Alternate Name:</b>  | C-MPL; MPL; MPLV; TPOR; Thrombopoietin receptor                                        |
| <b>Size:</b>            | 50 µg                                                                                  |
| <b>Concentration:</b>   | 0.2 mg/ml                                                                              |
| <b>Clone:</b>           | 1.6.1                                                                                  |
| <b>Isotype:</b>         | Mouse IgG2b, κ                                                                         |
| <b>Reactivity:</b>      | QC Testing: Human                                                                      |
| <b>Storage Buffer:</b>  | Aqueous buffered solution containing BSA, protein stabilizer, and ≤0.09% sodium azide. |

## Description

The 1.6.1 monoclonal antibody specifically binds to the human Thrombopoietin Receptor (TPO-R) that is also known as the Myeloproliferative leukemia protein (c-Mpl) or CD110. CD110 is a type I transmembrane glycoprotein and a member of the hematopoietin receptor family. It is expressed on hematopoietic stem cells, a subfraction of hematopoietic precursor cells, cells of the megakaryocytic lineage and platelets. CD110 serves as a receptor for thrombopoietin. Upon binding of thrombopoietin to CD110, megakaryocyte proliferation and differentiation is induced, platelets are produced and stem cells are protected from apoptosis.

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).



*Flow cytometric analysis of human CD110 expression on platelets and HEL92.1.7 cells (ATCC® TIB-180™). Human platelets (Left Panel) and HEL92.1.7 cells (Right Panel) were stained with either BD Horizon™ PE-CF594 Mouse IgG2b, κ Isotype Control (Cat. No. 562305; dashed line histogram) or BD Horizon™ PE-CF594 Mouse Anti-Human CD110 antibody (Cat. No. 562416; solid line histogram). Flow cytometric fluorescence histograms were derived from gated events with the forward and side light-scatter characteristics of platelets or viable HEL92.1.7 cells. Flow cytometry 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.

## Application Notes

## Application

## BD Biosciences

[bdbiosciences.com](http://bdbiosciences.com)

| United States | Canada       | Europe        | Japan        | Asia Pacific | Latin America/Caribbean |
|---------------|--------------|---------------|--------------|--------------|-------------------------|
| 877.232.8995  | 800.979.9408 | 32.53.720.550 | 0120.8555.90 | 65.6861.0633 | 55.11.5185.9995         |

For country contact information, visit [bdbiosciences.com/contact](http://bdbiosciences.com/contact)

Conditions: The information disclosed herein is not to be construed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be held responsible for patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of Becton, Dickinson and Company is strictly prohibited.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Not for resale.

Unless otherwise noted, BD, BD Logo and all other trademarks are property of Becton, Dickinson and Company. © 2011 BD



**Suggested Companion Products**

| <b>Catalog Number</b> | <b>Name</b>                                    | <b>Size</b> | <b>Clone</b> |
|-----------------------|------------------------------------------------|-------------|--------------|
| 562305                | PE-CF594 Mouse IgG2b, $\kappa$ Isotype Control | 0.1 mg      | 27-35        |
| 554656                | Stain Buffer (FBS)                             | 500 ml      | (none)       |

**Product Notices**

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. An isotype control should be used at the same concentration as the antibody of interest.
3. 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.
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. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at [www.bdbiosciences.com/colors](http://www.bdbiosciences.com/colors).
6. Texas Red is a registered trademark of Molecular Probes, Inc., Eugene, OR.
7. CF™ is a trademark of Biotium, Inc.
8. When excited by the yellow-green (561-nm) laser, the fluorescence may be brighter than when excited by the blue (488-nm) laser.
9. 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](mailto:btinfo@biotium.com).
10. 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.
11. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
12. Please refer to [www.bdbiosciences.com/pharming/protocols](http://www.bdbiosciences.com/pharming/protocols) for technical protocols.

**References**

Abbott C, Huang G, Wei P, et al. Mouse monoclonal antibodies against human c-Mpl and characterization for flow cytometry applications. *Hybridoma*. 2010; 29(2):103-113. (Clone-specific: Flow cytometry)

Broudy VC, Lin NL, Fox N, Taga T, Saito M, Kaushansky K. Thrombopoietin stimulates colony-forming unit-megakaryocyte proliferation and megakaryocyte maturation independently of cytokines that signal through the gp130 receptor subunit. *Blood*. 1996; 88(6):2026-2032. (Biology)

Deng B, Banu N, Malloy B. An agonist murine monoclonal antibody to the human c-Mpl receptor stimulates megakaryocytopoiesis. *Blood*. 1998; 92(6):1981-1988. (Biology)

Fox NE, Lim J, Chen R, Geddis AE. F104S c-Mpl responds to a transmembrane domain-binding thrombopoietin receptor agonist: proof of concept that selected receptor mutations in congenital amegakaryocytic thrombocytopenia can be stimulated with alternative thrombopoietic agents. *Exp Hematol*. 2010; 38(5):384-391. (Clone-specific: Flow cytometry)

Gotoh A, Ritchie A, Takahira H, Broxmeyer HE. Thrombopoietin and erythropoietin activate inside-out signaling of integrin and enhance adhesion to immobilized fibronectin in human growth-factor-dependent hematopoietic cells. *Ann Hematol*. 1997; 75(5-6):207-213. (Biology)

Sigurdsson OE, Gudmundsson KO, Haraldsdottir V, Rafnar T, Agnarsson BA, Gudmundsson S. Flt3/Flk-2 ligand in combination with thrombopoietin decreases apoptosis in megakaryocyte development. *Stem Cells Dev*. 2004; 13(2):183-191. (Biology)

**BD Biosciences**

[bdbiosciences.com](http://bdbiosciences.com)

|                      |               |               |              |                     |                                |
|----------------------|---------------|---------------|--------------|---------------------|--------------------------------|
| <b>United States</b> | <b>Canada</b> | <b>Europe</b> | <b>Japan</b> | <b>Asia Pacific</b> | <b>Latin America/Caribbean</b> |
| 877.232.8995         | 800.979.9408  | 32.53.720.550 | 0120.8555.90 | 65.6861.0633        | 55.11.5185.9995                |

For country contact information, visit [bdbiosciences.com/contact](http://bdbiosciences.com/contact)

Conditions: The information disclosed herein is not to be construed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be held responsible for patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of Becton, Dickinson and Company is strictly prohibited.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Not for resale.

Unless otherwise noted, BD, BD Logo and all other trademarks are property of Becton, Dickinson and Company. © 2011 BD

