Technical Data Sheet

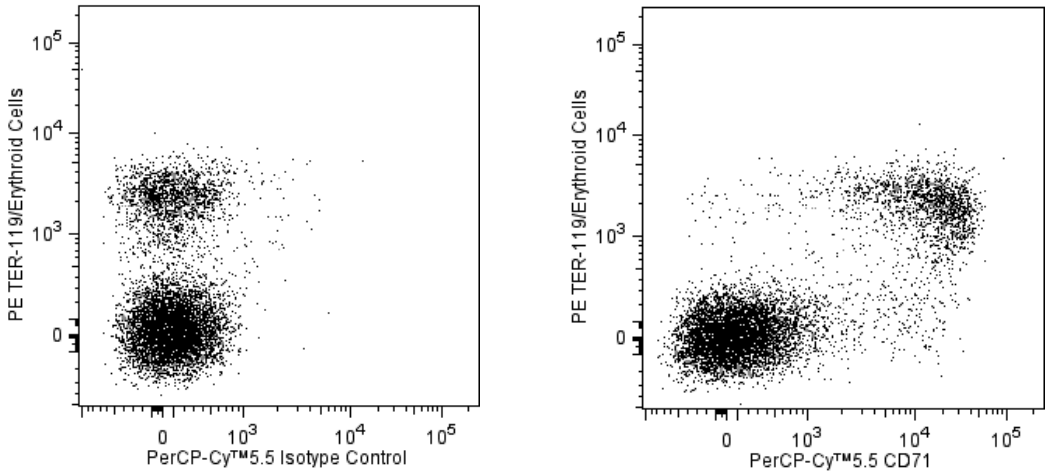
PerCP-Cy™5.5 Rat Anti-Mouse CD71

Product Information

Material Number:	**562858**
Alternate Name:	Transferrin Receptor; TR; TfR; TfR1; Tfrc; Trfr; Mtvr-1
Size:	0.1 mg
Concentration:	0.2 mg/ml
Clone:	C2 (also known as C2F2)
Immunogen:	Mouse cell line
Isotype:	Rat (WF) IgG1, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The C2 monoclonal antibody specifically binds to CD71, the transferrin receptor. CD71 is a disulfide-linked homodimer of 95-kDa subunits. CD71 mediates one of the cellular mechanisms for iron uptake, and its expression is regulated according to the cell's iron requirements. It is expressed at high levels on developing erythroid cells, and it is upregulated after mitogenic activation of B or T lymphocytes. The C2 monoclonal antibody selectivity inhibits some types of T- and B-cell activation by down-regulation of transferrin receptor expression, but it does not block binding of transferrin.



Two-color flow cytometric analysis of CD71 expression on developing mouse erythroid cells. *BALB/c mouse bone marrow cells were preincubated with Purified Rat Anti-Mouse CD16/CD32 antibody (Mouse BD Fc Block™) (Cat. No. 553141/553142). The cells were then stained with PE Rat Anti-Mouse TER-119/Erythroid Cells antibody (Cat. No. 553673/561071) and either PerCP-Cy™5.5 Rat IgG1, κ Isotype Control (Cat. No. 560537, Left Panel) or PerCP-Cy™5.5 Rat Anti-Mouse CD71 (Cat. No. 562858, Right Panel). The two-color flow cytometric dot plots show the correlated expression of CD71 (or Ig Isotype control staining) versus TER-119 for gated events with the forward and side light-scatter characteristics of viable bone marrow cells. 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 PerCP-Cy5.5 under optimum conditions, and unconjugated antibody and free PerCP-Cy5.5 were removed. Storage of PerCP-Cy5.5 conjugates in unoptimized diluent is not recommended and may result in loss of signal intensity.

Application Notes

Application

Flow cytometry	Routinely Tested

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Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 ml	(none)
560537	PerCP-Cy™5.5 Rat IgG1, κ Isotype Control	0.1 mg	R3-34
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
553673	PE Rat Anti-Mouse TER-119/Erythroid Cells	0.2 mg	TER-119
561071	PE Rat Anti-Mouse TER-119/Erythroid Cells	25 µg	TER-119

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 refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
4. Cy is a trademark of Amersham Biosciences Limited. This conjugated product is sold under license to the following patents: US Patent Nos. 5,486,616; 5,569,587; 5,569,766; 5,627,027.
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. PerCP-Cy5.5–labelled antibodies can be used with FITC- and R-PE–labelled reagents in single-laser flow cytometers with no significant spectral overlap of PerCP-Cy5.5, FITC, and R-PE fluorescence.
8. PerCP-Cy5.5 is optimized for use with a single argon ion laser emitting 488-nm light. Because of the broad absorption spectrum of the tandem fluorochrome, extra care must be taken when using dual-laser cytometers, which may directly excite both PerCP and Cy5.5™. We recommend the use of cross-beam compensation during data acquisition or software compensation during data analysis.
9. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
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References

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Kemp JD, Thorson JA, McAlmont TH, Horowitz M, Cowdery JS, Ballas ZK. Role of the transferrin receptor in lymphocyte growth: a rat IgG monoclonal antibody against the murine transferrin receptor produces highly selective inhibition of T and B cell activation protocols. *J Immunol.* 1987; 138(8):2422-2426. (Immunogen: Activation, Immunoprecipitation, Inhibition)

Lok CN, Loh TT. Regulation of transferrin function and expression: review and update. *Biol Signals Recept.* 1998; 7(3):157-178. (Biology)

Thorson JA, Smith KM, Gomez F, Naumann PW, Kemp JD. Role of iron in T cell activation: TH1 clones differ from TH2 clones in their sensitivity to inhibition of DNA synthesis caused by IgG Mabs against the transferrin receptor and the iron chelator deferoxamine. *Cell Immunol.* 1991; 134(1):126-137. (Clone-specific: Inhibition)

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