Technical Data Sheet

BV421 Rat Anti-Mouse CD71

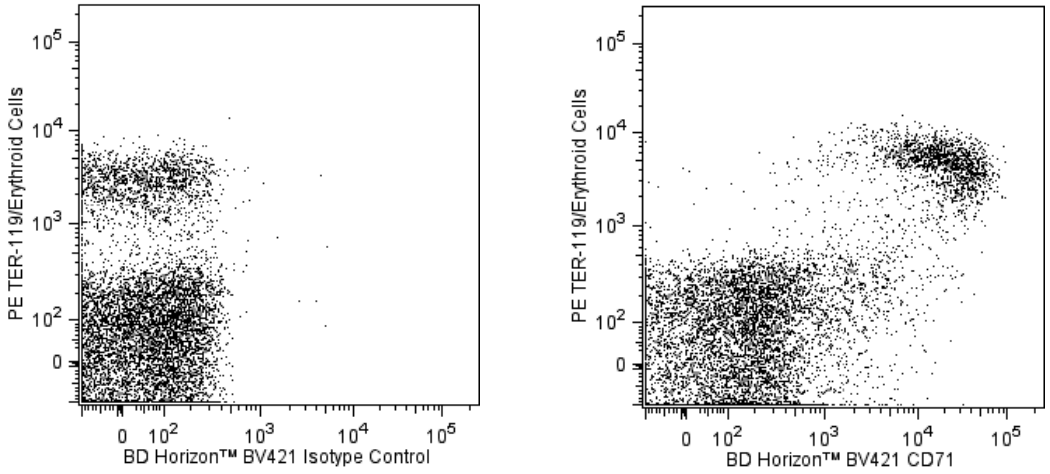
Product Information

Material Number:	**562716**
Alternate Name:	Transferrin Receptor; TR; TfR; TfR1; Tfrc; Trfr; Mtvr-1
Size:	50 µg
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 BSA and ≤0.09% sodium azide.

Description

The C2 antibody 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.

The antibody was conjugated to BD Horizon™ BV421 which is part of the BD Horizon™ Brilliant Violet™ family of dyes. With an Ex Max of 407-nm and Em Max at 421-nm, BD Horizon™ BV421 can be excited by the violet laser and detected in the standard Pacific Blue™ filter set (eg, 450/50-nm filter). BD Horizon™ BV421 conjugates are very bright, often exhibiting a 10 fold improvement in brightness compared to Pacific Blue™ conjugates..



Two-color flow cytometric analysis of CD71 expression on developing mouse erythroid cells. *BALB/c mouse bone-marrow cells were simultaneously stained with PE Rat Anti-Mouse TER-119/Erythroid Cells (Cat. No. 553673) and with either BD Horizon™ BV421 Rat IgG1, κ Isotype Control (Cat. No. 562868, Left Panel) or BD Horizon™ BV421 Rat Anti-Mouse CD71 (Cat. No. 562716, Right Panel). The two-color flow cytometric dot plots showing the correlated expression of CD71 (or Ig Isotype control staining) versus TER-119 were derived from gated events with the forward and side light-scatter characteristics of viable 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™ BV421 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV421 were removed.

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)
562868	BV421 Rat IgG1, κ Isotype Control	50 µg	R3-34
553673	PE Rat Anti-Mouse TER-119/Erythroid Cells	0.2 mg	TER-119
555899	Lysing Buffer	100 ml	(none)

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. 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.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
7. Pacific Blue™ is a trademark of Molecular Probes, Inc., Eugene, OR.
8. Brilliant Violet™ 421 is a trademark of Sirigen.

References

Fujimoto T. GPI-anchored proteins, glycosphingolipids, and sphingomyelin are sequestered to caveolae only after crosslinking. *J Histochem Cytochem.* 1996; 44(8):929-941. (Clone-specific: Immunofluorescence)

Kemp JD, Thorson JA, Gomez F, Smith KM, Cowdery JS, Ballas ZK. Inhibition of lymphocyte activation with anti-transferrin receptor Mabs: a comparison of three reagents and further studies of their range of effects and mechanism of action. *Cell Immunol.* 1989; 122(1):218-230. (Clone-specific: Activation, Inhibition)

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: Activation, Inhibition)

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