

Technical Data Sheet

BB700 Mouse Anti-Human CD71

Product Information

Material Number:	746082
Size:	50 µg
Clone:	M-A712
Alternative Name:	TFR; TFRC; Trfr; Tfr1; Transferrin receptor protein 1
Reactivity:	Human (Tested in Development)
Isotype:	Mouse BALB/c IgG2a, κ
Immunogen:	T-CLL and Jurkat Cells
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

The M-A712 monoclonal antibody specifically binds to CD71 which is also known as the transferrin receptor (TFR). This type II transmembrane glycoprotein is expressed on cells as a disulfide-linked homodimer comprised of 95 kDa monomers. CD71 is expressed on activated lymphocytes, monocytes, macrophages, erythroid progenitors, brain endothelium, and most proliferating cells. CD71 is not expressed on resting lymphocytes and is upregulated during lymphocyte responses to antigens or mitogens. Through an endocytic pathway, the transferrin receptor mediates cellular iron uptake by binding and internalizing iron that is bound to transferrin. After releasing iron within the low pH endosomal environment, transferrin and its receptor can be recycled to the cell surface.

The antibody was conjugated to BD Horizon™ BB700, which is part of the BD Horizon Brilliant™ Blue family of dyes. It is a polymer-based tandem dye developed exclusively by BD Biosciences. With an excitation max of 485 nm and an emission max of 693 nm, BD Horizon BB700 can be excited by the 488 nm laser and detected in a standard PerCP-Cy™5.5 set (eg, 695/40-nm filter). This dye provides a much brighter alternative to PerCP-Cy5.5 with less cross laser excitation off the 405 nm and 355 nm lasers.

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 BB700 under optimal conditions that minimize unconjugated dye and antibody.

Recommended Assay Procedure

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes are used in the same experiment. Fluorescent dye interactions may cause staining artifacts which may affect data interpretation. The BD Horizon Brilliant Stain Buffer was designed to minimize these interactions. More information can be found in the Technical Data Sheet of the BD Horizon Brilliant Stain Buffer (Cat. No. 563794 or 566349).

When setting up compensation, it is recommended to compare spillover values obtained from cells and BD™ CompBeads to ensure that beads will provide sufficiently accurate spillover values.

For optimal results, it is recommended to perform two washes after staining with antibodies. Cells may be prepared, stained with antibodies and washed twice with wash buffer per established protocols for immunofluorescent staining prior to acquisition on a flow cytometer. Performing fewer than the recommended wash steps may lead to increased spread of the negative population.

Suggested Companion Products

Catalog Number	Name	Size
554656	Stain Buffer (FBS)	500 mL
554657	Stain Buffer (BSA)	500 mL
563794	Brilliant Stain Buffer	100 Tests
555899	Lysing Buffer	100 mL

Product Notices

1. This antibody was developed for use in flow cytometry.
2. The production process underwent stringent testing and validation to assure that it generates a high-quality conjugate with consistent performance and specific binding activity. However, verification testing has not been performed on all conjugate lots.
3. Researchers should determine the optimal concentration of this reagent for their individual applications.
4. An isotype control should be used at the same concentration as the antibody of interest.
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 wwwbdbiosciences.com/colors.
7. Please refer to wwwbdbiosciences.com/us/s/resources for technical protocols.
8. BD Horizon Brilliant Stain Buffer is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,575,303; 8,354,239.
9. BD Horizon Brilliant Blue 700 is covered by one or more of the following US patents: 8,455,613 and 8,575,303.
10. Cy is a trademark of GE Healthcare.

References

- Makita S, Kanai T, Oshima S, et al. CD4+CD25bright T cells in human intestinal lamina propria as regulatory cells. *J Immunol.* 2004; 173(5):3119-3130.
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- Schwartz R, Stein H. Cluster report: CD71. In: Knapp W. W. Knapp .. et al., ed. *Leucocyte typing IV : white cell differentiation antigens.* Oxford New York: Oxford University Press; 1989; :455-460.
- Zola H. *Leukocyte and stromal cell molecules : the CD markers.* Hoboken, N.J.: Wiley-Liss; 2007; .

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