

## Datasheet: MCA1033SBB700

|                      |                                         |
|----------------------|-----------------------------------------|
| <b>Description:</b>  | RAT ANTI MOUSE CD71:StarBright Blue 700 |
| <b>Specificity:</b>  | CD71                                    |
| <b>Other names:</b>  | TRANSFERRIN RECEPTOR                    |
| <b>Format:</b>       | StarBright Blue 700                     |
| <b>Product Type:</b> | Monoclonal Antibody                     |
| <b>Clone:</b>        | YTA74.4                                 |
| <b>Isotype:</b>      | IgG2a                                   |
| <b>Quantity:</b>     | 100 TESTS/0.5ml                         |

## Product Details

### Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit [www.bio-rad-antibodies.com/protocols](http://www.bio-rad-antibodies.com/protocols).

|                    | Yes | No | Not Determined | Suggested Dilution |
|--------------------|-----|----|----------------|--------------------|
| Flow Cytometry (1) | ■   |    |                | Neat               |

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using appropriate negative/positive controls.

**(1) Staining at lower temperatures generally requires longer incubation to reach antibody binding equilibrium, and this effect is more pronounced for StarBright Dyes due to their larger size. For optimum staining, Bio-Rad recommends incubating samples either overnight at 4°C or 1 hour at room temperature.**

|                        |                                                                                               |                            |                          |
|------------------------|-----------------------------------------------------------------------------------------------|----------------------------|--------------------------|
| <b>Target Species</b>  | Mouse                                                                                         |                            |                          |
| <b>Product Form</b>    | Purified IgG conjugated to StarBright Blue 700 - liquid                                       |                            |                          |
| <b>Max Ex/Em</b>       | <b>Fluorophore</b>                                                                            | <b>Excitation Max (nm)</b> | <b>Emission Max (nm)</b> |
|                        | StarBright Blue 700                                                                           | 473                        | 703                      |
| <b>Preparation</b>     | Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant |                            |                          |
| <b>Buffer Solution</b> | Phosphate buffered saline                                                                     |                            |                          |
| <b>Preservative</b>    | 0.09% Sodium Azide (NaN <sub>3</sub> )                                                        |                            |                          |

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Stabilisers</b>                    | 1% Bovine Serum Albumin<br>0.1% Pluronic F68<br>0.1% PEG 3350<br>0.05% Tween 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Approx. Protein Concentrations</b> | For information on the concentration of our StarBright Dye conjugated reagents please visit our <a href="#">FAQ</a> page.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Immunogen</b>                      | Concanavalin A activated mouse spleen cells.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>External Database Links</b>        | <p><b>UniProt:</b><br/> <a href="#">Q62351</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b><br/> <a href="#">22042</a>    Tfrc    <a href="#">Related reagents</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Synonyms</b>                       | Tfrr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Fusion Partners</b>                | Spleen cells from an immunized DA rat were fused with cells of the Y3/Ag1.2.3 rat myeloma cell line.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Specificity</b>                    | <p><b>Rat anti Mouse CD71 antibody, clone YTA74.4</b> recognizes the mouse transferrin receptor protein 1 also known as CD71 or TfR1. CD71 is a 763 amino acid glycoprotein homodimer of ~95 kDa subunits. CD71 is expressed by dividing cells, and functions as a transferrin receptor mediating uptake of iron.</p> <p>Rat anti Mouse CD71 antibody, clone YTA74.4 blocks the binding of R17 217.1.3. and R17 208.2 anti-TFR monoclonal antibodies (<a href="#">Trowbridge <i>et al.</i> 1982</a>).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Flow Cytometry</b>                 | Use 5µl of the suggested working dilution to label 0.5x10 <sup>6</sup> cells in 100µl. Best practices suggest a 5 min centrifugation at 6,000g prior to sample application.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>References</b>                     | <ol style="list-style-type: none"> <li>1. Millot, S. <i>et al.</i> (2010) Erythropoietin stimulates spleen BMP4-dependent stress erythropoiesis and partially corrects anemia in a mouse model of generalized inflammation. <a href="#">Blood. 116: 6072-81.</a></li> <li>2. Kuo, Y.M. <i>et al.</i> (2004) Mislocalisation of hephaestin, a multicopper ferroxidase involved in basolateral intestinal iron transport, in the sex linked anaemia mouse. <a href="#">Gut. 53: 201-6.</a></li> <li>3. Krysiak, K. <i>et al.</i> (2015) Reduced levels of Hspa9 attenuate Stat5 activation in mouse B cells. <a href="#">Exp Hematol. 43 (4): 319-30.e10.</a></li> <li>4. Byun, M. <i>et al.</i> (2007) Cowpox virus exploits the endoplasmic reticulum retention pathway to inhibit MHC class I transport to the cell surface. <a href="#">Cell Host Microbe. 2: 306-15.</a></li> <li>5. Ripich, T. and Jessberger, R. (2011) SWAP-70 regulates erythropoiesis by controlling α4 integrin. <a href="#">Haematologica. 96: 1743-52.</a></li> <li>6. Hadziahmetovic, M. <i>et al.</i> (2012) Microarray analysis of murine retinal light damage reveals changes in iron regulatory, complement, and antioxidant genes in the neurosensory retina and isolated RPE. <a href="#">Invest Ophthalmol Vis Sci. 53 (9): 5231-41.</a></li> <li>7. Niewoehner, J. <i>et al.</i> (2014) Increased brain penetration and potency of a therapeutic</li> </ol> |

antibody using a monovalent molecular shuttle. [Neuron. 81: 49-60.](#)

8. Sands, S.A. *et al.* (2015) The habenula and iron metabolism in cerebral mouse models of multiple sclerosis. [Neurosci Lett. 606: 204-8.](#)

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11. Hargreaves, A. *et al.* (2021) Tumors modulate fenestrated vascular beds and host endocrine status. [J Appl Toxicol. 41 \(12\): 1952-65.](#)

12. Zhang, K.R. *et al.* (2022) Conditional knockout of hephaestin in the neural retina disrupts retinal iron homeostasis. [Exp Eye Res. 218: 109028.](#)

13. Hargreaves, A. *et al.* (2022) Tumours modulate the systemic vascular response to anti-angiogenic therapy. [J Appl Toxicol. 42 \(8\): 1371-84.](#)

14. Hargreaves, A. *et al.* (2021) Tumors modulate fenestrated vascular beds and host endocrine status. [J Appl Toxicol. 41 \(12\): 1952-65.](#)

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|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Further Reading</b>               | <p>1. Lesley, J. <i>et al.</i> (1984) Expression of transferrin receptor on murine hematopoietic progenitors. <a href="#">Cell Immunol. 83 (1): 14-25.</a></p> <p>2. Trowbridge, I.S. <i>et al.</i> (1982) Murine cell surface transferrin receptor: studies with an anti-receptor monoclonal antibody. <a href="#">J Cell Physiol. 112 (3): 403-10.</a></p> |
| <b>Storage</b>                       | <p>This product is shipped at ambient temperature.</p> <p>Store at +4°C. DO NOT FREEZE.</p> <p>This product should be stored undiluted.</p>                                                                                                                                                                                                                  |
| <b>Guarantee</b>                     | 12 months from date of despatch                                                                                                                                                                                                                                                                                                                              |
| <b>Acknowledgements</b>              | This product is covered by U.S. Patent No. 10,150,841 and related U.S. and foreign counterparts                                                                                                                                                                                                                                                              |
| <b>Health And Safety Information</b> | Material Safety Datasheet documentation #20471 available at: <a href="https://www.bio-rad-antibodies.com/SDS/MCA1033SBB700">https://www.bio-rad-antibodies.com/SDS/MCA1033SBB700</a>                                                                                                                                                                         |
| <b>Regulatory</b>                    | For research purposes only                                                                                                                                                                                                                                                                                                                                   |

## Related Products

### Recommended Useful Reagents

[MOUSE SEROBLOCK FcR \(BUF041A\)](#)

[MOUSE SEROBLOCK FcR \(BUF041B\)](#)

**Product inquiries:** [www.bio-rad-antibodies.com/technical-support](http://www.bio-rad-antibodies.com/technical-support)

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**Printed on 10 Jul 2026**