

## Datasheet: MCA1033A647T

<b>Description:</b>	RAT ANTI MOUSE CD71:Alexa Fluor® 647
<b>Specificity:</b>	CD71
<b>Other names:</b>	TRANSFERRIN RECEPTOR
<b>Format:</b>	ALEXA FLUOR® 647
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	YTA74.4
<b>Isotype:</b>	IgG2a
<b>Quantity:</b>	25 TESTS/0.25ml

## 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	▪			Neat - 1/5

Where this antibody 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 antibody for use in their own system using appropriate negative/positive controls.

<b>Target Species</b>	Mouse		
<b>Product Form</b>	Purified IgG conjugated to Alexa Fluor 647 - liquid		
<b>Max Ex/Em</b>	<b>Fluorophore</b>	<b>Excitation Max (nm)</b>	<b>Emission Max (nm)</b>
	Alexa Fluor®647	650	665
<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 Stabilisers</b>	0.09% sodium azide (NaN <sub>3</sub> )		
	1% bovine serum albumin		
<b>Approx. Protein Concentrations</b>	IgG concentration 0.05 mg/ml		

Immunogen	Concanavalin A activated mouse spleen cells.
External Database Links	<p><b>UniProt:</b>  <a href="#">Q62351</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">22042</a>    Tfrc    <a href="#">Related reagents</a></p>
Synonyms	Tfrr
RRID	AB_2203388
Fusion Partners	Spleen cells from an immunised DA rat were fused with cells of the Y3/Ag1.2.3 rat myeloma cell line.
Specificity	<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 et al. 1982</a>).</p>
Flow Cytometry	<p>Use 10µl of the suggested working dilution to label 10<sup>6</sup> cells in 100µl.</p> <p>The Fc region of monoclonal antibodies may bind to cells expressing low affinity Fc receptors. This may be reduced by using SeroBlock FcR (<a href="#">BUF041A/B</a>).</p>
References	<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> (2014) Reduced Levels of Hspa9 Attenuates Stat5 Activation in Mouse B-cells. <a href="#">Exp Hematol. pii: S0301-472X(14)00817-0.</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 antibody using a monovalent molecular shuttle. <a href="#">Neuron. 81: 49-60.</a></li> <li>8. Sands, S.A. <i>et al.</i> (2015) The habenula and iron metabolism in cerebral mouse models of multiple sclerosis. <a href="#">Neurosci Lett. 606: 204-8.</a></li> <li>9. Baumann, B. <i>et al.</i> (2017) Conditional Müller Cell Ablation Leads to Retinal Iron Accumulation. <a href="#">Invest Ophthalmol Vis Sci. 58 (10): 4223-34.</a></li> </ol>

10. Nelvagal, H.R. *et al.* (2020) Comparative proteomic profiling reveals mechanisms for early spinal cord vulnerability in CLN1 disease. [Sci Rep. 10 \(1\): 15157.](#)
11. Hargreaves, A. *et al.* (2021) Tumors modulate fenestrated vascular beds and host endocrine status. [J Appl Toxicol. May 11 \[Epub ahead of print\].](#)
12. Zhang, K.R. *et al.* (2022) Conditional knockout of hephaestin in the neural retina disrupts retinal iron homeostasis. [Exp Eye Res. : Mar 07: 109028 \[Epub ahead of print\].](#)
13. Hargreaves, A. *et al.* (2022) Tumours modulate the systemic vascular response to anti-angiogenic therapy. [J Appl Toxicol. Feb 13 \[Epub ahead of print\].](#)

#### Further Reading

1. Lesley, J. *et al.* (1984) Expression of transferrin receptor on murine hematopoietic progenitors. [Cell Immunol. 83 \(1\): 14-25.](#)
2. Trowbridge, I.S. *et al.* (1982) Murine cell surface transferrin receptor: studies with an anti-receptor monoclonal antibody. [J Cell Physiol. 112 \(3\): 403-10.](#)

#### Storage

This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C.

Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended. This product is photosensitive and should be protected from light.

#### Guarantee

12 months from date of despatch

#### Acknowledgements

This product is provided under an intellectual property licence from Life Technologies Corporation. The transfer of this product is contingent on the buyer using the purchase product solely in research, excluding contract research or any fee for service research, and the buyer must not sell or otherwise transfer this product or its components for (a) diagnostic, therapeutic or prophylactic purposes; (b) testing, analysis or screening services, or information in return for compensation on a per-test basis; (c) manufacturing or quality assurance or quality control, or (d) resale, whether or not resold for use in research. For information on purchasing a license to this product for purposes other than as described above, contact Life Technologies Corporation, 5791 Van Allen Way, Carlsbad CA 92008 USA or [outlicensing@thermofisher.com](mailto:outlicensing@thermofisher.com)

#### Health And Safety Information

Material Safety Datasheet documentation #10041 available at: <https://www.bio-rad-antibodies.com/SDS/MCA1033A647T>  
10041

#### Regulatory

For research purposes only

## Related Products

### Recommended Negative Controls

[RAT IgG2a NEGATIVE CONTROL:Alexa Fluor® 647 \(MCA1212A647\)](#)

**North & South America** Tel: +1 800 265 7376  
Fax: +1 919 878 3751

**Worldwide** Tel: +44 (0)1865 852 700  
Fax: +44 (0)1865 852 739

**Europe** Tel: +49 (0) 89 8090 95 21  
Fax: +49 (0) 89 8090 95 50

To find a batch/lot specific datasheet for this product, please use our online search tool at: [bio-rad-antibodies.com/datasheets](https://bio-rad-antibodies.com/datasheets)

'M407886:221010'

**Printed on 16 Oct 2023**