

## Datasheet: MCA1033G

<b>Description:</b>	RAT ANTI MOUSE CD71
<b>Specificity:</b>	CD71
<b>Other names:</b>	TRANSFERRIN RECEPTOR
<b>Format:</b>	Purified
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	YTA74.4
<b>Isotype:</b>	IgG2a
<b>Quantity:</b>	0.25 mg

## 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	▪			1/50 - 1/100
Immunohistology - Frozen	▪			
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation	▪			
Western Blotting			▪	

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 - liquid
<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> )

<b>Carrier Free</b>	Yes
<b>Approx. Protein Concentrations</b>	IgG concentration 1 mg/ml
<b>Immunogen</b>	Concanavilin A activated mouse spleen cells.
<b>External Database Links</b>	<p><b>UniProt:</b>  <a href="#">Q62351</a>    <a href="#">Related reagents</a></p> <p><b>Entrez Gene:</b>  <a href="#">22042</a> Tfr    <a href="#">Related reagents</a></p>
<b>Synonyms</b>	Tfr
<b>RRID</b>	AB_321758
<b>Fusion Partners</b>	Spleen cells from an immunised 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 et al. 1982</a>).</p>
<b>Flow Cytometry</b>	Use 10µl of the suggested working dilution to label 1 x 10 <sup>6</sup> cells in 100µl
<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> (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</li> </ol>

- of multiple sclerosis. [Neurosci Lett. 606: 204-8.](#)
9. Baumann, B. *et al.* (2017) Conditional Müller Cell Ablation Leads to Retinal Iron Accumulation. [Invest Ophthalmol Vis Sci. 58 \(10\): 4223-34.](#)
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 \[Epub ahead of print\].](#)

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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>
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**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.

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**Guarantee** 12 months from date of despatch

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**Health And Safety Information** Material Safety Datasheet documentation #10040 available at: <https://www.bio-rad-antibodies.com/SDS/MCA1033G>  
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**Regulatory** For research purposes only

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## Related Products

### Recommended Secondary Antibodies

Goat Anti Rat IgG (STAR69...)	<a href="#">FITC</a>
Goat Anti Rat IgG (STAR73...)	<a href="#">RPE</a>
Rabbit Anti Rat IgG (STAR17...)	<a href="#">FITC</a>
Goat Anti Rat IgG (STAR131...)	<a href="#">Alk. Phos., Biotin</a>
Goat Anti Rat IgG (STAR72...)	<a href="#">HRP</a>
Goat Anti Rat IgG (MOUSE ADSORBED) (STAR71...)	<a href="#">DyLight®550</a> , <a href="#">DyLight®650</a> , <a href="#">DyLight®800</a>
Rabbit Anti Rat IgG (STAR21...)	<a href="#">HRP</a>
Rabbit Anti Rat IgG (STAR16...)	<a href="#">DyLight®800</a>

### Recommended Negative Controls

[RAT IgG2a NEGATIVE CONTROL \(MCA1212\)](#)

**North & South** Tel: +1 800 265 7376

**Worldwide**

Tel: +44 (0)1865 852 700

**Europe**

Tel: +49 (0) 89 8090 95 21

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