

## Datasheet: MCA2474PE

**BATCH NUMBER INN1701**

|                      |                         |
|----------------------|-------------------------|
| <b>Description:</b>  | RAT ANTI MOUSE CD71:RPE |
| <b>Specificity:</b>  | CD71                    |
| <b>Other names:</b>  | TRANSFERRIN RECEPTOR    |
| <b>Format:</b>       | RPE                     |
| <b>Product Type:</b> | Monoclonal Antibody     |
| <b>Clone:</b>        | 8D3                     |
| <b>Isotype:</b>      | IgG2a                   |
| <b>Quantity:</b>     | 100 TESTS               |

## 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               |

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.

| <b>Target Species</b>  | Mouse   |                   |                     |                   |                 |     |     |
|------------------------|---|-------------------|---------------------|-------------------|-----------------|-----|-----|
| <b>Product Form</b>    | Purified IgG conjugated to R. Phycoerythrin (RPE) - lyophilized   |                   |                     |                   |                 |     |     |
| <b>Reconstitution</b>  | Reconstitute with 1.0 ml distilled water<br>Care should be taken during reconstitution as the protein may appear as a film at the bottom of the vial. Bio-Rad recommend that the vial is gently mixed after reconstitution. |                   |                     |                   |                 |     |     |
| <b>Max Ex/Em</b>       | <table border="1"> <thead> <tr> <th>Fluorophore</th> <th>Excitation Max (nm)</th> <th>Emission Max (nm)</th> </tr> </thead> <tbody> <tr> <td>RPE 488nm laser</td> <td>496</td> <td>578</td> </tr> </tbody> </table>         | Fluorophore       | Excitation Max (nm) | Emission Max (nm) | RPE 488nm laser | 496 | 578 |
| Fluorophore            | Excitation Max (nm)   | Emission Max (nm) |                     |                   |                 |     |     |
| RPE 488nm laser        | 496   | 578               |                     |                   |                 |     |     |
| <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>5% Sucrose  |
| <b>Immunogen</b>               | Mouse transformed endothelioma cell line t.end1.   |
| <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>                | Tfrc   |
| <b>Fusion Partners</b>         | Spleen cells from immunised Lewis rats were fused with the cells of the mouse NS0 myeloma cell line.   |
| <b>Specificity</b>             | <p><b>Rat anti Mouse CD71 antibody, clone 8D3</b> recognizes mouse CD71, a 763 amino acid ~95 kDa single pass type II cell surface transmembrane glycoprotein, otherwise known as the transferrin receptor. CD71 is a major iron-binding protein, which plays a key role in the transport of iron into cells that require it. In mice, CD71 is widely expressed on a variety of cells, including Sertoli cells and cells which form the blood brain barrier (BBB) in the central nervous system.</p> <p>Rat anti Mouse CD71 antibody, clone 8D3 recognizes native, soluble and denatured forms of murine CD71. Binding of the 8D3 antibody to CD71 does not inhibit the proliferation of cell lines tested, and does not interfere with the uptake of iron into cells.</p> <p>Rat anti Mouse CD71 antibody, clone 8D3 has been used as a BBB transporter vector in mice and is suitable for studying CD71 expression, and iron uptake into different tissues, in the mouse (<a href="#">Kissel <i>et al.</i> 1988</a>).</p>  |
| <b>Flow Cytometry</b>          | Use 10ul of the suggested working dilution to label 10 <sup>6</sup>  |
| <b>References</b>              | <ol style="list-style-type: none"> <li>1. Kissel, K. <i>et al.</i> (1998) Immunohistochemical localization of the murine transferrin receptor (TfR) on blood-tissue barriers using a novel anti-TfR monoclonal antibody. <a href="#">Histochem cell Biol. 110: 63-72.</a></li> <li>2. Lee, H.J. <i>et al.</i> (2000) Targeting rat anti-mouse transferrin receptor monoclonal antibodies through blood-brain barrier in mouse. <a href="#">J Pharmacol Exp Ther. 292 (3): 1048-52.</a></li> <li>3. Zhang, Y. <i>et al.</i> (2004) Intravenous RNA interference gene therapy targeting the human epidermal growth factor receptor prolongs survival in intracranial brain cancer. <a href="#">Clin Cancer Res. 10 (11): 3667-77.</a></li> <li>4. Cabezón I <i>et al.</i> (2015) Trafficking of Gold Nanoparticles Coated with the 8D3 Anti-Transferrin Receptor Antibody at the Mouse Blood-Brain Barrier. <a href="#">Mol Pharm. 12 (11): 4137-45.</a></li> <li>5. Lee, H.J. <i>et al.</i> (2002) Imaging gene expression in the brain <i>in vivo</i> in a transgenic mouse model of Huntington's disease with an antisense radiopharmaceutical and</li> </ol> |

drug-targeting technology. [J Nucl Med. 43 \(7\): 948-56.](#)

6. Manich, G. *et al.* (2013) Study of the transcytosis of an anti-transferrin receptor antibody with a Fab' cargo across the blood-brain barrier in mice. [Eur J Pharm Sci. 49 \(4\): 556-64.](#)

7. Sehlin, D. *et al.* (2016) Antibody-based PET imaging of amyloid beta in mouse models of Alzheimer's disease. [Nat Commun. 7: 10759.](#)

8. Sehlin, D. *et al.* (2017) Pharmacokinetics, biodistribution and brain retention of a bispecific antibody-based PET radioligand for imaging of amyloid- $\beta$ . [Sci Rep. 7 \(1\): 17254.](#)

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**Further Reading**

1. Jones AR & Shusta EV (2007) Blood-brain barrier transport of therapeutics via receptor-mediation. [Pharm Res. 24 \(9\): 1759-71.](#)
2. Pardridge WM (2007) Blood-brain barrier delivery of protein and non-viral gene therapeutics with molecular Trojan horses. [J Control Release. 122 \(3\): 345-8.](#)
3. Boado RJ *et al.* (2009) Engineering and expression of a chimeric transferrin receptor monoclonal antibody for blood-brain barrier delivery in the mouse. [Biotechnol Bioeng. 102 \(4\): 1251-8.](#)

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**Storage**

Prior to reconstitution store at +4°C.  
After reconstitution store at +4°C.  
DO NOT FREEZE. This product should be stored undiluted. This product is photosensitive and should be protected from light.

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**Guarantee**

12 months from date of despatch

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**Health And Safety Information**

Material Safety Datasheet documentation #20487 available at:  
<https://www.bio-rad-antibodies.com/SDS/MCA2474PE>  
20487

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**Regulatory**

For research purposes only

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## Related Products

### Recommended Negative Controls

[RAT IgG2a NEGATIVE CONTROL:RPE \(MCA1212PE\)](#)

### Recommended Useful Reagents

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

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

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