# Datasheet: MCA2183A700

## BATCH NUMBER 1807

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| **Description:** | RAT ANTI MOUSE CD13:Alexa Fluor® 700 |
| **Specificity:** | CD13 |
| **Other names:** | AMINOPEPTIDASE N |
| **Format:** | ALEXA FLUOR® 700 |
| **Product Type:** | Monoclonal Antibody |
| **Clone:** | R3-63 |
| **Isotype:** | IgG2a |
| **Quantity:** | 100 TESTS/1ml |

## 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.

| | Yes | No | Not Determined | Suggested Dilution |
|---|---|---|---|---|
| Flow Cytometry | ▪ | | | Neat |

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 system using appropriate negative/positive controls

**Target Species**

Mouse

**Product Form**

Purified IgG conjugated to Alexa Fluor 700 - liquid

**Max Ex/Em**

| Fluorophore | Excitation Max (nm) | Emission Max (nm) |
|---|---|---|
| Alexa Fluor®700 | 702 | 723 |

**Preparation**

Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant

**Buffer Solution**

Phosphate buffered saline

**Preservative Stabilisers**

0.09% Sodium Azide ($NaN_3$)
1% Bovine Serum Albumin

**Approx. Protein**

IgG concentration 0.05 mg/ml

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| **Concentrations** | |
| **Immunogen** | Mouse intestinal APN |
| **External Database Links** | **UniProt:**<br>P97449 Related reagents<br><br>**Entrez Gene:**<br>16790 Anpep Related reagents |
| **Synonyms** | Lap1, Lap-1 |
| **Fusion Partners** | Spleen cells from immunized mice were fused with cells of the IR983F rat myeloma cell line. |
| **Specificity** | **Rat anti Mouse CD13 antibody, clone R3-63** recognizes mouse aminopeptidase N (APN), a cell surface protein homologous with human CD13. In the mouse, CD13 is a non-covalently linked homodimer of approximately 150 kDa subunits expressed by a variety of cells including monocytes, macrophages, dendritic cell and veiled cells.<br><br>Rat anti Mouse CD13 antibody, clone R3-63 has been reported to block mouse APN enzyme activity (Hansen *et al.* 1993). |
| **Flow Cytometry** | Use 10ul of the suggested working dilution to label $10^6$ cells in 100ul.<br><br>The Fc region of monoclonal antibodies may bind non-specifically to cells expressing low affinity fc receptors. This may be reduced by using SeroBlock FcR (BUF041A/B) |
| **References** | 1. Kamoun, W.S. *et al.* (2009) Edema control by cediranib, a vascular endothelial growth factor receptor-targeted kinase inhibitor, prolongs survival despite persistent brain tumor growth in mice. J Clin Oncol. 27: 2542-52.<br>2. Hansen, A.S. *et al.* (1993) A mouse aminopeptidase N is a marker for antigen-presenting cells and appears to be co-expressed with major histocompatibility complex class II molecules. Eur J Immunol. 23 (9): 2358-64.<br>3. Larsen, S.L. *et al.* (1996) T cell responses affected by aminopeptidase N (CD13)-mediated trimming of major histocompatibility complex class II-bound peptides. J Exp Med. 184 (1): 183-9.<br>4. Rangel, R. *et al.* (2007) Impaired angiogenesis in aminopeptidase N-null mice. Proc Natl Acad Sci U S A. 104: 4588-93.<br>5. Lahdenranta, J. *et al.* (2007) Treatment of hypoxia-induced retinopathy with targeted proapoptotic peptidomimetic in a mouse model of disease. FASEB J. 21: 3272-8.<br>6. Li, P. *et al.* (2010) Use of adenoviral vectors to target chemotherapy to tumor vascular endothelial cells suppresses growth of breast cancer and melanoma. Mol Ther. 18: 921-8.<br>7. van Deventer, H.W. *et al.* (2008) C-C chemokine receptor 5 on pulmonary fibrocytes facilitates migration and promotes metastasis via matrix metalloproteinase 9. Am J Pathol. 173: 253-64.<br>8. Gabrilovac, J. *et al.* (2011) Expression, regulation and functional activities of |

aminopeptidase N (EC 3.4.11.2; APN; CD13) on murine macrophage J774 cell line. Immunobiology. 216: 132-44.
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14. Ridder, D.A. *et al.* (2015) Brain endothelial TAK1 and NEMO safeguard the neurovascular unit. J Exp Med. 212 (10): 1529-49.
15. Vanlandewijck, M. *et al.* (2015) Functional Characterization of Germline Mutations in PDGFB and PDGFRB in Primary Familial Brain Calcification. PLoS One. 10 (11): e0143407.
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17. Zotz, J.S. et al. (2016) CD13/aminopeptidase N is a negative regulator of mast cell activation. FASEB J. 30 (6): 2225-35.
18. Sung, S.J. *et al.* (2017) Proximal Tubule CD73 Is Critical in Renal Ischemia-Reperfusion Injury Protection. J Am Soc Nephrol. 28 (3): 888-902.
19. Yanagida, K. *et al.* (2017) Size-selective opening of the blood-brain barrier by targeting endothelial sphingosine 1-phosphate receptor 1. Proc Natl Acad Sci U S A. 114 (17): 4531-6.
20. Elabi, O. *et al.* (2021) Human α-synuclein overexpression in a mouse model of Parkinson's disease leads to vascular pathology, blood brain barrier leakage and pericyte activation. Sci Rep. 11 (1): 1120.
21. Kato, T. *et al.* (2020) Excessive Production of Transforming Growth Factor β1 Causes Mural Cell Depletion From Cerebral Small Vessels. Front Aging Neurosci. 12: 151.

**Storage**

Store at +4$^{o}$C or at -20$^{o}$C if preferred.

This product should be stored undiluted.

Storage in frost-free freezers is not recommended. This product is photosensitive and should be protected from light.

Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use

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| **Guarantee** | 12 months from date of despatch |
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| **Health And Safety Information** | Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA2183A700 10041 |
| **Regulatory** | For research purposes only |

## Related Products

### Recommended Negative Controls

RAT IgG2a NEGATIVE CONTROL:Alexa Fluor® 700 (MCA1212A700)

### Recommended Useful Reagents

MOUSE SEROBLOCK FcR (BUF041A)
MOUSE SEROBLOCK FcR (BUF041B)


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| **North & South America** | Tel: +1 800 265 7376<br>Fax: +1 919 878 3751<br>Email: antibody_sales_us@bio-rad.com | **Worldwide** | Tel: +44 (0)1865 852 700<br>Fax: +44 (0)1865 852 739<br>Email: antibody_sales_uk@bio-rad.com | **Europe** | Tel: +49 (0) 89 8090 95 21<br>Fax: +49 (0) 89 8090 95 50<br>Email: antibody_sales_de@bio-rad.com |


To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets
'M348258:190219'

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