

# Datasheet: MCA2183FT

**BATCH NUMBER 164905**

<b>Description:</b>	RAT ANTI MOUSE CD13:FITC
<b>Specificity:</b>	CD13
<b>Other names:</b>	AMINOPEPTIDASE N
<b>Format:</b>	FITC
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	R3-63
<b>Isotype:</b>	IgG2a
<b>Quantity:</b>	25 µg

## 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 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.

Target Species	Mouse		
Product Form	Purified IgG conjugated to Fluorescein Isothiocyanate Isomer 1 (FITC) - liquid		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	FITC	490	525
Preparation	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant		
Buffer Solution	Phosphate buffered saline		
Preservative	0.09% sodium azide (NaN <sub>3</sub> )		
Stabilisers	1% bovine serum albumin		
Approx. Protein	IgG concentration 0.1 mg/ml		

## Concentrations

---

Immunogen	Mouse intestinal APN
-----------	----------------------

---

## External Database Links

### UniProt:

[P97449](#)

[Related reagents](#)

### Entrez Gene:

[16790](#)

Anpep

[Related reagents](#)

---

Synonyms	Lap1, Lap-1
----------	-------------

---

---

RRID	AB_1100676
------	------------

---

---

Fusion Partners	Spleen cells from immunized mice were fused with cells of the IR983F rat myeloma cell line.
-----------------	---

---

---

Specificity	<b>Rat anti Mouse CD13 antibody, clone R3-63</b> 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.
-------------	---

Rat anti Mouse CD13 antibody, clone R3-63 has been reported to block mouse APN enzyme activity ([Hansen \*et al.\* 1993](#)).

---

Flow Cytometry	Use 10µl of the suggested working dilution to label 10 <sup>6</sup> cells in 100µl. 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/BUF041B</a> ).
----------------	---

---

## 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.](#)
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.](#)
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.](#)
4. Rangel, R. *et al.* (2007) Impaired angiogenesis in aminopeptidase N-null mice. [Proc Natl Acad Sci U S A. 104: 4588-93.](#)
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.](#)
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.](#)
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.](#)

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.](#)
9. Ozawa, M.G. *et al.* (2008) Beyond receptor expression levels: the relevance of target accessibility in ligand-directed pharmacodelivery systems. [Trends Cardiovasc Med. 18: 126-32.](#)
10. Bertilaccio, M.T. *et al.* (2008) Vasculature-targeted tumor necrosis factor- $\alpha$  increases the therapeutic index of doxorubicin against prostate cancer. [Prostate. 68: 1105-15.](#)
11. Boström, M. *et al.* (2014) The hippocampal neurovascular niche during normal development and after irradiation to the juvenile mouse brain. [Int J Radiat Biol. 90: 778-89.](#)
12. Mayer-Barber, K.D. *et al.* (2011) Innate and adaptive interferons suppress IL-1 $\alpha$  and IL-1 $\beta$  production by distinct pulmonary myeloid subsets during *Mycobacterium tuberculosis* infection. [Immunity. 35: 1023-34.](#)
13. Winnicka, B. *et al.* (2010) CD13 is dispensable for normal hematopoiesis and myeloid cell functions in the mouse. [J Leukoc Biol. 88: 347-59.](#)
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.](#)
16. Körbelin J *et al.* (2016) A brain microvasculature endothelial cell-specific viral vector with the potential to treat neurovascular and neurological diseases. [EMBO Mol Med. 8 \(6\): 609-25.](#)
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  $\alpha$ -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  $\beta$ 1 Causes Mural Cell Depletion From Cerebral Small Vessels. [Front Aging Neurosci. 12: 151.](#)
22. Chen, X. *et al.* (2023) Functional gene delivery to and across brain vasculature of systemic AAVs with endothelial-specific tropism in rodents and broad tropism in primates. [Nat Commun. 14 \(1\): 3345.](#)

---

#### 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.

<b>Guarantee</b>	12 months from date of despatch
<b>Health And Safety Information</b>	Material Safety Datasheet documentation #10041 available at: <a href="https://www.bio-rad-antibodies.com/SDS/MCA2183FT">https://www.bio-rad-antibodies.com/SDS/MCA2183FT</a> 10041
<b>Regulatory</b>	For research purposes only

## Related Products

### Recommended Negative Controls

[RAT IgG2a NEGATIVE CONTROL:FITC \(MCA1212F\)](#)

<b>North &amp; South America</b>	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: <a href="mailto:antibody_sales_us@bio-rad.com">antibody_sales_us@bio-rad.com</a>	<b>Worldwide</b>	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: <a href="mailto:antibody_sales_uk@bio-rad.com">antibody_sales_uk@bio-rad.com</a>	<b>Europe</b>	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: <a href="mailto:antibody_sales_de@bio-rad.com">antibody_sales_de@bio-rad.com</a>
----------------------------------	---	------------------	---	---------------	---

To find a batch/lot specific datasheet for this product, please use our online search tool at: [bio-rad-antibodies.com/datasheets](https://www.bio-rad-antibodies.com/datasheets)  
'M413193:221120'

Printed on 19 Jan 2024