

Datasheet: MCA2183

Description:	RAT ANTI MOUSE CD13
Specificity:	CD13
Other names:	AMINOPEPTIDASE N
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	R3-63
Isotype:	IgG2a
Quantity:	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.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			1/50 - 1/100
Immunohistology - Frozen	▪			
Immunohistology - Paraffin (1)	▪			
ELISA			▪	
Immunoprecipitation			▪	
Western Blotting			▪	
Immunofluorescence	▪			

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.

(1) **This product requires antigen retrieval using heat treatment prior to staining of paraffin sections. Sodium citrate buffer pH 6.0 is recommended for this purpose. See [Bertilaccio et al.](#) for details.**

Target Species	Mouse
Product Form	Purified IgG - liquid
Preparation	Purified IgG prepared by affinity chromatography on Protein G.
Buffer Solution	Phosphate buffered saline
Preservative Stabilisers	0.09% Sodium Azide
Carrier Free	Yes
Approx. Protein	IgG concentration 1.0 mg/ml

Concentrations

Immunogen Mouse intestinal APN

External Database Links

UniProt:

[P97449](#) [Related reagents](#)

Entrez Gene:

[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.

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 10⁶ cells in 100ul.

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.](#)
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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.](#)
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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.](#)
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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. Apr 22. pii: e201506078. \[Epub ahead of print\]](#)
17. Zotz, J.S. *et al.* (2016) CD13/aminopeptidase N is a negative regulator of mast cell activation. [FASEB J. Mar 2. pii: fj.201600278. \[Epub ahead of print\]](#)
18. Sung, S.J. *et al.* (2016) Proximal Tubule CD73 Is Critical in Renal Ischemia-Reperfusion Injury Protection. [J Am Soc Nephrol. Sep 14. pii: ASN.2016020229. \[Epub ahead of print\]](#)
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.](#)

Storage

Store at +4°C or at -20°C if preferred.

This product should be stored undiluted.

Storage in frost-free freezers is not recommended. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.

Shelf Life

18 months from date of despatch.

Health And Safety Information

Material Safety Datasheet documentation #10040 available at:
10040: <https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf>

Regulatory

For research purposes only

Related Products

Recommended Secondary Antibodies

Rabbit Anti Rat IgG (STAR16...)	DyLight®800
Goat Anti Rat IgG (STAR73...)	RPE
Rabbit Anti Rat IgG (STAR21...)	HRP
Rabbit Anti Rat IgG (STAR17...)	FITC
Goat Anti Rat IgG (MOUSE ADSORBED) (STAR71...)	DyLight®649 , DyLight®800
Goat Anti Rat IgG (STAR131...)	Alk. Phos. , Biotin
Goat Anti Rat IgG (STAR69...)	FITC
Goat Anti Rat IgG (STAR72...)	HRP

Recommended Negative Controls

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

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