

Datasheet: MCA2183

BATCH NUMBER 160788

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	▪			1/200 - 1/1000
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 Concentrations	IgG concentration 1.0 mg/ml
Immunogen	Mouse intestinal APN
External Database Links	<p>UniProt: P97449 Related reagents</p> <p>Entrez Gene: 16790 Anpep Related reagents</p>
Synonyms	Lap1, Lap-1
RRID	AB_323691
Fusion Partners	Spleen cells from immunized mice were fused with cells of the IR983F rat myeloma cell line.
Specificity	<p>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.</p> <p>Rat anti Mouse CD13 antibody, clone R3-63 has been reported to block mouse APN enzyme activity (Hansen et al. 1993).</p>
Flow Cytometry	Use 10ul of the suggested working dilution to label 10 ⁶ cells in 100ul.
References	<ol style="list-style-type: none"> 1. Kamoun, W.S. <i>et al.</i> (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. <i>et al.</i> (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. <i>et al.</i> (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. <i>et al.</i> (2007) Impaired angiogenesis in aminopeptidase N-null mice. Proc Natl Acad Sci U S A. 104: 4588-93. 5. Lahdenranta, J. <i>et al.</i> (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 α and IL-1 β 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 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 β 1 Causes Mural Cell Depletion From Cerebral Small Vessels. [Front Aging Neurosci. 12: 151.](#)

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.

Guarantee	12 months from date of despatch
------------------	---------------------------------

Health And Safety Information	Material Safety Datasheet documentation #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA2183 10040
--------------------------------------	--

Regulatory	For research purposes only
-------------------	----------------------------

Related Products

Recommended Secondary Antibodies

Rabbit Anti Rat IgG (STAR16...)	DyLight@800
Rabbit Anti Rat IgG (STAR17...)	FITC
Goat Anti Rat IgG (STAR72...)	HRP
Goat Anti Rat IgG (STAR69...)	FITC
Goat Anti Rat IgG (STAR73...)	RPE
Rabbit Anti Rat IgG (STAR21...)	HRP
Goat Anti Rat IgG (MOUSE ADSORBED) (STAR71...)	DyLight@550 , DyLight@650 , DyLight@800
Goat Anti Rat IgG (STAR131...)	Alk. Phos. , Biotin

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
----------------------------------	---	------------------	---	---------------	---

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets
'M383481:210513'

Printed on 19 Jan 2024