

Datasheet: MCA2183EL

Description:	RAT ANTI MOUSE CD13:Low Endotoxin
Specificity:	CD13
Other names:	AMINOPEPTIDASE N
Format:	Low Endotoxin
Product Type:	Monoclonal Antibody
Clone:	R3-63
Isotype:	IgG2a
Quantity:	0.5 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	■			
Functional Assays	■			

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 A.
Buffer Solution	Phosphate buffered saline
Preservative Stabilisers	None present
Carrier Free	Yes

Endotoxin Level	<0.01EU/ug
Approx. Protein Concentrations	IgG concentration 1.0 mg/ml
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 10 ⁶ cells in 100ul.
References	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. <i>et al.</i> (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. <i>et al.</i> (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. <i>et al.</i> (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. <i>et al.</i> (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. <i>et al.</i> (2008) Vasculature-targeted tumor necrosis factor-alpha increases the therapeutic index of doxorubicin against prostate cancer. Prostate. 68: 1105-15. 11. Boström, M. <i>et al.</i> (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. <i>et al.</i> (2011) Innate and adaptive interferons suppress IL-1α and IL-1β

- 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. 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 -20°C only.

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 #10162 available at: 10162: <https://www.bio-rad-antibodies.com/uploads/MSDS/10162.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:Low Endotoxin \(MCA1212EL\)](#)

Recommended Useful Reagents

[ANTIGEN RETRIEVAL BUFFER, pH8.0 \(BUF025A\)](#)
[ANTIGEN RETRIEVAL BUFFER, pH8.0 \(BUF025C\)](#)

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