

Datasheet: MCA2183EL

BATCH NUMBER 153316

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 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.

(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 <u>Bertilaccio et al.</u> for details.

Target Species	Mouse
Product Form	Purified IgG - liquid
Preparation	Purified IgG prepared by affinity chromatography on Protein G from tissue culture

supernatant

Buffer Solution	Phosphate buffered saline		
Preservative Stabilisers	None present		
Carrier Free	Yes		
Endotoxin Level	< 0.01 EU/µg		
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		
RRID	AB_2056870		
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 10µl of the suggested working dilution to label 10 ⁶ cells in 100µl		
References	 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. <u>J Clin Oncol. 27: 2542-52.</u> Hansen, A.S. <i>et al.</i> (1993) A mouse aminopeptidase N is a marker for antigenpresenting cells and appears to be co-expressed with major histocompatibility complex class II molecules. <u>Eur J Immunol. 23 (9): 2358-64.</u> 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. <u>J Exp Med. 184 (1): 183-9.</u> 		

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- 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. <u>Am J Pathol.</u> 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. <u>Trends Cardiovasc Med. 18: 126-32.</u>
- 10. Bertilaccio, M.T. *et al.* (2008) Vasculature-targeted tumor necrosis factor-alpha increases the therapeutic index of doxorubicin against prostate cancer. <u>Prostate. 68:</u> 1105-15.
- 11. Boström, M. *et al.* (2014) The hippocampal neurovascular niche during normal development and after irradiation to the juvenile mouse brain. <u>Int J Radiat Biol. 90:</u> 778-89.
- 12. Mayer-Barber, K.D. *et al.* (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. <u>J Leukoc Biol. 88: 347-59.</u>
- 14. Ridder, D.A. *et al.* (2015) Brain endothelial TAK1 and NEMO safeguard the neurovascular unit. <u>J Exp Med. 212 (10): 1529-49.</u>
- 15. Vanlandewijck, M. *et al.* (2015) Functional Characterization of Germline Mutations in PDGFB and PDGFRB in Primary Familial Brain Calcification. <u>PLoS One. 10 (11):</u> e0143407.
- 16. Körbelin J *et al.* (2016) A brain microvasculature endothelial cell-specific viral vector with the potential to treat neurovascular and neurological diseases. <u>EMBO Mol Med. 8 (6):</u> 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. <u>J Am Soc Nephrol. 28 (3): 888-902.</u>
- 19. Yanagida, K. *et al.* (2017) Size-selective opening of the blood-brain barrier by targeting endothelial sphingosine 1-phosphate receptor 1. <u>Proc Natl Acad Sci U S A. 114 (17):</u> 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. <u>Sci Rep. 11 (1): 1120.</u>
- 21. Kato, T. *et al.* (2020) Excessive Production of Transforming Growth Factor β1 Causes Mural Cell Depletion From Cerebral Small Vessels. <u>Front Aging Neurosci. 12: 151.</u>
- 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 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.

Guarantee 12 months from date of despatch

Health And Safety Information

Material Safety Datasheet documentation #10162 available at:

https://www.bio-rad-antibodies.com/SDS/MCA2183EL

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Regulatory For research purposes only

Related Products

Recommended Secondary Antibodies

Rabbit Anti Rat IgG (STAR16...) <u>DyLight®800</u>

Rabbit Anti Rat IgG (STAR17...)

Goat Anti Rat IgG (STAR72...)

Goat Anti Rat IgG (STAR69...)

Goat Anti Rat IgG (STAR73...)

RPE

Rabbit Anti Rat IgG (STAR21...)

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:Low Endotoxin (MCA1212EL)

Recommended Useful Reagents

ANTIGEN RETRIEVAL BUFFER, pH8.0 (BUF025A)

 North & South
 Tel: +1 800 265 7376
 Worldwide
 Tel: +44 (0)1865 852 700
 Europe
 Tel: +49 (0) 89 8090 95 21

 America
 Fax: +1 919 878 3751
 Fax: +44 (0)1865 852 739
 Fax: +49 (0) 89 8090 95 50

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets 'M414874:221214'

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