

Datasheet: MCA1427A488

Description:	MOUSE ANTI RAT CD161:Alexa Fluor® 488
Specificity:	CD161
Other names:	NATURAL KILLER CELLS, NKR-P1A
Format:	ALEXA FLUOR® 488
Product Type:	Monoclonal Antibody
Clone:	10/78
Isotype:	IgG1
Quantity:	100 TESTS/1ml

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	■			1/10

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 own system using appropriate negative/positive controls.

Target Species	Rat		
Product Form	Purified IgG conjugated to Alexa Fluor® 488 - liquid		
Max Ex/Em	Fluorophore	Excitation Max (nm)	Emission Max (nm)
	Alexa Fluor®488	495	519
Preparation	Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant		
Buffer Solution	Phosphate buffered saline		
Preservative	0.09% Sodium Azide		
Stabilisers	1% Bovine Serum Albumin		
Approx. Protein Concentrations	IgG concentration 0.05 mg/ml		
Immunogen	Purified splenic NK cells from the LEW rat strain.		
External Database Links	UniProt: P27471 Related reagents A4KWA1 Related reagents		

Entrez Gene:

[362443](#) Klr1a [Related reagents](#)
[25192](#) Klr1b [Related reagents](#)

Synonyms

Nkrp1a, Nkrp1b

Fusion Partners

Spleen cells from immunised BALB/c mice were fused with cells of the mouse X63.Ag8653 myeloma cell line.

Specificity

Mouse anti Rat CD161 antibody, clone 10/78 recognizes the rat Killer cell lectin-like receptor subfamily B protein, also known as NKR-PI or CD161. CD161 is a 233 amino acid ~60 kDa type II single pass protein containing a single [C-type lectin](#) domain. CD161 is expressed on rat NK cells and T cell subpopulations. CD161 exists in 2 forms NKR-PIa and NKR-PIb, Mouse anti Rat CD161 antibody, clone 10/78 recognizes both forms of CD161 ([Li et al. 2003](#)). Clone 10/78 competes with another anti CD161 clone, 3.2.3 for binding to antigen.

Mouse anti Rat CD161 antibody, clone 10/78 has been successfully employed for the *in vivo* depletion of rat NK cells in an experimental obesity model ([Wrann et al. 2010](#)).

Flow Cytometry

Use 10ul of the suggested working dilution to label 10⁶ cells in 100ul.

References

1. Li, J. *et al.* (2003) Expression cloning and function of the rat NK activating and inhibitory receptors NKR-P1A and -P1B. [Int Immunol. 15: 411-6.](#)
2. Sedgwick, J.D. *et al.* (1998) Central nervous system microglial cell activation and proliferation follows direct interaction with tissue-infiltrating T cell blasts. [J Immunol. 160 \(11\): 5320-30.](#)
3. Schwartzkopff, J. *et al.* (2010) NK cell depletion delays corneal allograft rejection in baby rats. [Mol Vis. 16: 1928-35.](#)
4. Lyons, A. *et al.* (2011) Atorvastatin prevents age-related and amyloid-beta-induced microglial activation by blocking interferon-gamma release from natural killer cells in the brain. [J Neuroinflammation. 8: 27.](#)
5. Ali, S. *et al.* (2005) Combined immunostimulation and conditional cytotoxic gene therapy provide long-term survival in a large glioma model. [Cancer Res. 65: 7194-204.](#)
6. Banerjee, S. *et al.* (2003) Development of organised conjunctival leucocyte aggregates after corneal transplantation in rats. [Br J Ophthalmol. 87: 1515-22.](#)
7. Latta, M. *et al.* (2007) CXCR6 is expressed on T cells in both T helper type 1 (Th1) inflammation and allergen-induced Th2 lung inflammation but is only a weak mediator of chemotaxis. [Immunology. 121: 555-64.](#)
8. Tliba, O. *et al.* (2002) Evaluation of the hepatic NK cell response during the early phase of *Fasciola hepatica* infection in rats. [Vet Res. 33 \(3\): 327-32.](#)
9. Blöcher, S. *et al.* (2007) Acute rejection of experimental lung allografts: characterization of intravascular mononuclear leukocytes. [Clin Immunol. 124 \(1\): 98-108.](#)
10. Koch, M. *et al.* (2015) Extracellular Vesicles from MSC Modulate the Immune Response to Renal Allografts in a MHC Disparate Rat Model. [Stem Cells Int. 2015: 486141.](#)
11. Trama, A.M. *et al.* (2012) Lymphocyte phenotypes in wild-caught rats suggest potential mechanisms underlying increased immune sensitivity in post-industrial environments. [Cell Mol Immunol. 9 \(2\): 163-74.](#)
12. Wrann, C.D. *et al.* (2010) Obesity and NK cells affect the expression of the long form of the leptin receptor Ob-Rb in liver of F344 rats. [Exp Toxicol Pathol. 62 \(1\): 1-8.](#)
13. Ikezumi, Y. *et al.* (2000) An anti-CD5 monoclonal antibody ameliorates proteinuria and glomerular lesions in rat mesangioproliferative glomerulonephritis. [Kidney Int. 58 \(1\): 100-14.](#)
14. Obara, H. *et al.* (2005) IFN-gamma, produced by NK cells that infiltrate liver allografts early

- after transplantation, links the innate and adaptive immune responses. [Am J Transplant. 5 \(9\): 2094-103.](#)
15. Beutel, G. *et al.* (2013) Effect of chronic elevated asymmetric dimethylarginine (ADMA) levels on granulopoiesis. [Ann Hematol. 92 \(4\): 505-8.](#)
 16. Lee, J.S. *et al.* (2011) Immunomodulatory effect of mushrooms on cytotoxic activity and cytokine production of intestinal lamina propria leukocytes does not necessarily depend on β -glucan contents. [Food Chem. 126 \(4\): 1521-6.](#)
 17. Williamson, L.L. *et al.* (2016) Got worms? Perinatal exposure to helminths prevents persistent immune sensitization and cognitive dysfunction induced by early-life infection. [Brain Behav Immun. 51: 14-28.](#)
 18. Arndt, T. *et al.* (2014) Variable immune cell frequencies in peripheral blood of LEW.1AR1-iddm rats over time compared to other congenic LEW strains. [Clin Exp Immunol. 177 \(1\): 168-78.](#)
 19. Kuper, C.F. *et al.* (2011) Oxazolone (OXA) is a respiratory allergen in Brown Norway rats. [Toxicology. 290 \(1\): 59-68.](#)
 20. Arsenović-Ranin, N. *et al.* (2013) Ovarian hormone withdrawal in prepubertal developmental stage does not prevent thymic involution in rats. [Exp Biol Med \(Maywood\). 238 \(6\): 641-57.](#)
 21. Djikić J *et al.* (2014) Age-associated changes in rat immune system: lessons learned from experimental autoimmune encephalomyelitis. [Exp Gerontol. 58: 179-97.](#)
 22. Lemke, A. *et al.* (2015) Rat renal transplant model for mixed acute humoral and cellular rejection: Weak correlation of serum cytokines/chemokines with intragraft changes. [Transpl Immunol. 33 \(2\): 95-102.](#)
 23. Bähr Ina *et al.* (2017) Diet-Induced Obesity Is Associated with an Impaired NK Cell Function and an Increased Colon Cancer Incidence [Journal of Nutrition and Metabolism. 2017: 1-14.](#)
 24. Sun, C.K. *et al.* (2017) Melatonin treatment enhances therapeutic effects of exosomes against acute liver ischemia-reperfusion injury. [Am J Transl Res. 9 \(4\): 1543-60.](#)

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. This product is photosensitive and should be protected from light.

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.

Acknowledgements

This product is provided under an intellectual property licence from Life Technologies Corporation. The transfer of this product is contingent on the buyer using the purchase product solely in research, excluding contract research or any fee for service research, and the buyer must not sell or otherwise transfer this product or its components for (a) diagnostic, therapeutic or prophylactic purposes; (b) testing, analysis or screening services, or information in return for compensation on a per-test basis; (c) manufacturing or quality assurance or quality control, or (d) resale, whether or not resold for use in research. For information on purchasing a license to this product for purposes other than as described above, contact Life Technologies Corporation, 5791 Van Allen Way, Carlsbad CA 92008 USA or outlicensing@thermofisher.com

Health And Safety Information

Material Safety Datasheet documentation #10041 available at: 10041: <https://www.bio-rad-antibodies.com/uploads/MSDS/10041.pdf>

Regulatory

For research purposes only

Related Products

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL:Alexa Fluor® 488 \(MCA1209A488\)](#)

North & South Tel: +1 800 265 7376

America 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

'M303249:170210'

Printed on 25 May 2018

© 2018 Bio-Rad Laboratories Inc | [Legal](#) | [Imprint](#)