Datasheet: MCA1266F

Description:	MOUSE ANTI MOUSE CD161 / NK1.1:FITC
Specificity:	CD161 / NK1.1
Format:	FITC
Product Type:	Monoclonal Antibody
Clone:	PK136
Isotype:	IgG2a
Quantity:	0.1 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	▪			Neat - 1/2

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.

Target Species

Mouse

Species Cross Reactivity

Does not react with:Rat, Human

Product Form

Purified IgG conjugated to Fluorescein Isothiocyanate Isomer 1 (FITC) - liquid

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
FITC	490	525

Preparation

Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant

Buffer Solution

Phosphate buffered saline

Preservative Stabilisers

0.09% sodium azide (NaN_3)
1% bovine serum albumin

Approx. Protein

IgG concentration 0.1 mg/ml

Concentrations	
Immunogen	Spleen and bone marrow cells from CE mice.
External Database Links	**UniProt:** P27814 Related reagents P27812 Related reagents **Entrez Gene:** 17059 Klrb1c Related reagents 80782 Klrb1b Related reagents
Synonyms	Ly55b, Ly55c, Nkrp1b, Nkrp1c
Fusion Partners	Spleen cells from immunized (C3H x BALB/c) FI Hybrid were fused with cells of the Sp2/0 - Ag14 myeloma cell line.
Specificity	**Mouse anti Mouse CD161 / NK1.1 antibody, clone PK136** recognizes the mouse NK1.1 cell surface antigen, a cell surface glycoprotein encoded by members of the NKR-P1 gene family. The NK1.1 surface antigen is also known as CD161b/CD161c and Ly-55. In the mouse the NKR-P1 family has three members, NKR-P1A, -B and -C, whilst in the human only one member has been identified. The human protein has received the designation CD161, and the mouse proteins have been referred to as CD161a, -b, -c etc. Although previously thought to recognize only CD161c, recent data has shown that the PK136 antibody may also react with CD161b. CD161c expression itself is strain specific in mice, but recognition of CD161b by PK136 appears to be even more complex, as only some CD161b positive strains are labelled by the antibody. Engagement of CD161c has been reported to have activating function in NK cells, whilst engagement of CD161b is inhibitory. Mouse anti Mouse NK1.1 Antigen antibody, clone PK136 is useful for the identification of NK cells in selected strains of mice (positive on C57BL, FVB/N and NZB, but negative on AKR and BALB/c) and is also expressed by rare subsets of T cells and monocytes. Mouse anti Mouse NK1.1 antibody, clone PK136 has also been used for *in vivo* depletion of NK cells (Wang *et al*. 2022) and *in vitro* activation of NK cells (Kung and Miller 1995).
Flow Cytometry	Use 10µl of the suggested working dilution to label 10^6 cells in 100µl. The Fc region of monoclonal antibodies may bind to cells expressing low affinity Fc receptors. This may be reduced by using SeroBlock FcR (BUF041A/BUF041B)
References	1. Koo, G.C. *et al.* (1986) The NK-1.1(-) mouse: a model to study differentiation of murine NK cells. J Immunol. 137 (12): 3742-7. 2. Kung, S.K. & Miller RG (1995) The NK1.1 antigen in NK-mediated F1 antiparent killing *in vitro*. J Immunol. 154 (4): 1624-33. 3. Wang, M. *et al.* (1998) Natural killer cell depletion fails to influence initial CD4 T cell

commitment in vivo in exogenous antigen-stimulated cytokine and antibody responses. J Immunol. 160 (3): 1098-105.
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5. Carnemolla, B. *et al.* (2002) Enhancement of the antitumor properties of interleukin-2 by its targeted delivery to the tumor blood vessel extracellular matrix. Blood. 99: 1659-65.
6. Svensson, L. *et al.* (2003) gammadelta T cells contribute to the systemic immunoglobulin E response and local B-cell reactivity in allergic eosinophilic airway inflammation. Immunology. 108 (1): 98-108.
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10. Sakai, T. *et al.* (2010) Inflammatory disease and cancer with a decrease in Kupffer cell numbers in Nucling-knockout mice. Int J Cancer. 126: 1079-94.
11. Ekstrand-Hammarström, B. *et al.* (2011) Inhalation of alkylating mustard causes long-term T cell-dependent inflammation in airways and growth of connective tissue. Toxicology. 280 (3): 88-97.
12. Khallouf, H. *et al.* (2012) 5-Fluorouracil and interferon-α immunochemotherapy enhances immunogenicity of murine pancreatic cancer through upregulation of NKG2D ligands and MHC class I. J Immunother. 35 (3): 245-53.
13. Klezovich-Bénard M *et al.* (2012) Mechanisms of NK cell-macrophage *Bacillus anthracis* crosstalk: a balance between stimulation by spores and differential disruption by toxins. PLoS Pathog. 8 (1): e1002481.
14. Gock, H. *et al.* (2014) Altered glycosylation in donor mice causes rejection of strain-matched skin and heart grafts. Am J Transplant. 14 (4): 797-805.
15. Gustafsson, Å. *et al.* (2015) Differential cellular responses in healthy mice and in mice with established airway inflammation when exposed to hematite nanoparticles. Toxicol Appl Pharmacol. 288 (1): 1-11.
16. Flavell, D.J. *et al.* (2019) The TLR3 Agonist Poly Inosinic:Cytidylic Acid Significantly Augments the Therapeutic Activity of an Anti-CD7 Immunotoxin for Human T-cell Leukaemia. Biomedicines. 7 (1) Feb 16 [Epub ahead of print].
17. Miao, M. *et al.* (2021) Reevaluation of NOD/SCID Mice as NK Cell-Deficient Models. Biomed Res Int. 2021: 8851986.
18. Li, L. & Li, M. (2023) Astrocyte-derived extracellular vesicles inhibit the abnormal activation of immune function in neonatal mice with hypoxic-ischemic brain damage by carrying miR-124-3p. Neurol Res. 45 (12): 1079-90.

Further Reading

1. Arase, N. *et al.* (1997) Association with FcRgamma is essential for activation signal through NKR-P1 (CD161) in natural killer (NK) cells and NK1.1+ T cells. J Exp Med. 186 (12): 1957-63.

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. This product is photosensitive and should be protected from light.
Guarantee	12 months from date of despatch
Health And Safety Information	Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA1266F 10041
Regulatory	For research purposes only

Related Products

Recommended Useful Reagents

MOUSE SEROBLOCK FcR (BUF041A)
MOUSE SEROBLOCK FcR (BUF041B)

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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