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NK1.1 Monoclonal Antibody (PK136), PE-Cyanine7, eBioscience™

Catalog Number 25-5941-82

Product data sheet

Details	
Size	100 µg
Host/Isotope	Mouse / IgG2a, kappa
Class	Monoclonal
Type	Antibody
Clone	PK136
Conjugate	PE-Cyanine7
Form	Liquid
Concentration	0.2 mg/mL
Purification	Affinity chromatography
Storage buffer	PBS, pH 7.2
Contains	0.09% sodium azide
Storage Conditions	4° C, store in dark, DO NOT FREEZE!

Species Reactivity	
Species reactivity	Mouse
Published species	Mouse, Human, Not Applicable

Tested Applications	Dilution *
Flow Cytometry (Flow)	0.25 µg/test

Published Applications	
Flow Cytometry (Flow)	See 63 publications below
Miscellaneous PubMed (Misc)	See 1 publications below

* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

Product specific information

Description: The PK136 monoclonal antibody reacts with mouse NK1.1, an antigen expressed by natural killer cells and a subset of T cells in the NK1.1 mouse strains including C57BL and NZB. Several commonly used laboratory mouse strains such as BALB/c, SJL, AKR, CBA, C3H and A do not express the NK1.1 antigen. For detection of NK cells in these strains the monoclonal antibody DX5 (Cat. No. 14-5971) should be used. Simultaneous staining of C57BL/6 spleen cells with PK136 and DX5 reveals coexpression of both markers by a majority of cells as well as presence of small populations of DX5+PK136- and DX5-PK136+ cells. Applications Reported: This PK136 antibody has been reported for use in flow cytometric analysis. Applications Tested: This PK136 antibody has been tested by flow cytometric analysis of mouse splenocytes. This can be used at less than or equal to 0.25 µg per test. A test is defined as the amount (µg) of antibody that will stain a cell sample in a final volume of 100 µL. Cell number should be determined empirically but can range from 10^5 to 10^8 cells/test. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest. Light sensitivity: This tandem dye is sensitive photo-induced oxidation. Please protect this vial and stained samples from light. Fixation: Samples can be stored in IC Fixation Buffer (cat. 00-8222) (100 µL cell sample + 100 µL IC Fixation Buffer) or 1-step Fix/Lyse Solution (cat. 00-5333) for up to 3 days in the dark at 4°C with minimal impact on brightness and FRET efficiency/compensation. Some generalizations regarding fluorophore performance after fixation can be made, but clone specific performance should be determined empirically. Excitation: 488-561 nm; Emission: 775 nm; Laser: Blue Laser, Green Laser, Yellow-Green Laser. Filtration: 0.2 µm post-manufacturing filtered.

Background/Target Information

NK1.1 (Killer cell lectin-like receptor subfamily B, member 1, KLRB1, NKR-P1A, CD161, cluster of differentiation 161), refers to Natural Killer (NK) cells, lymphocytes that mediate cytotoxicity and secrete cytokines after immune stimulation. Several genes of the C-type lectin superfamily, including the rodent NKRP1 family of glycoproteins, are expressed by NK cells and may be involved in the regulation of NK cell function. The KLRB1 protein contains an extracellular domain with several motifs characteristic of C-type lectins, a transmembrane domain, and a cytoplasmic domain. The KLRB1 protein, NKR-P1A or CD161, is classified as a type II membrane protein because it has an external C terminus. NKR-P1A, the receptor encoded by the KLRB1 gene, recognizes Lectin Like Transcript-1 (LLT1) as a functional ligand.

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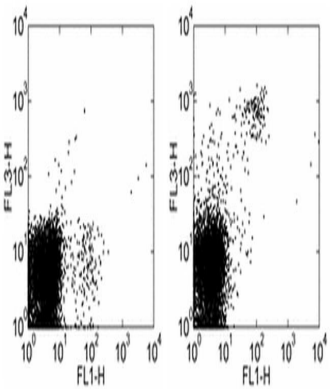
Product Images For NK1.1 Monoclonal Antibody (PK136), PE-Cyanine7, eBioscience™



NK1.1 Antibody (25-5941-82) in Flow

Staining of C57BL/6 splenocytes with Anti-Mouse CD49b (Integrin alpha 2) FITC (Product # 11-5971-82) and staining buffer (autofluorescence) (left) or Anti-Mouse NK1-1 PE-Cyanine7 (right). Total viable cells were used for analysis.

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PubMed References For NK1.1 Monoclonal Antibody (PK136), PE-Cyanine7, eBioscience™

63 Flow Cytometry References

Species / Dilution	Summary
Mouse / Not Cited	25-5941-82 was used in Flow Cytometry to show that Ppic is dispensable for myeloid cells, platelets, erythrocytes, and T lymphocytes in vivo in the steady state, while being involved in B and iNKT cell differentiation. European journal of immunology (2021; 51: 1968) **"Peptidylprolyl isomerase C (Ppic) regulates invariant Natural Killer T cell (iNKT) differentiation in mice."** Author(s):Paiva RS,Ramos CV,Azenha SR,Alves C,Basto AP,Graca L,Martins VC PubMed Article URL:http://dx.doi.org/10.1002/eji.202048924
Mouse / Not Cited	25-5941 was used in Flow cytometry/Cell sorting to demonstrate that c-Myb is absolutely required for the survival and differentiation of CD19(+) B-lineage cells. Journal of immunology (Baltimore, Md. : 1950) (2009; 183: 5582) **"c-Myb is required for pro-B cell differentiation."** Author(s):Fahl SP,Crittenden RB,Allman D,Bender TP PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.0901187
Mouse / Not Cited	25-5941 was used in Flow cytometry/Cell sorting to identify a discrete ILC2-committed population and delineated transition states between early progenitors and a highly heterogeneous ILC1, ILC3, and NK precursor cell cluster. Immunity (2019; 51: 104) **"Polychromic Reporter Mice Reveal Unappreciated Innate Lymphoid Cell Progenitor Heterogeneity and Elusive ILC3 Progenitors in Bone Marrow."** Author(s):Walker JA,Clark PA,Crisp A,Barlow JL,Szeto A,Ferreira ACF,Rana BMJ,Jolin HE,Rodriguez-Rodriguez N,Sivasubramaniam M,Pannell R,Cruickshank J,Daly M,Haim-Vilmovsky L,Teichmann SA,McKenzie ANJ PubMed Article URL:http://dx.doi.org/10.1016/j.immuni.2019.05.002
Mouse / Not Cited	25-5941 was used in Flow cytometry/Cell sorting to investigate dual TCR expression in T cells. PloS one (2016; 10:) **"Bi-Allelic TCR or Recombination Enhances T Cell Development but Is Dispensable for Antigen Responses and Experimental Autoimmune Encephalomyelitis."** Author(s):Schuldt NJ,Auger JL,Hogquist KA,Binstadt BA PubMed Article URL:http://dx.doi.org/10.1371/journal.pone.0145762
Mouse / Not Cited	25-5941 was used in Flow cytometry/Cell sorting to suggest that effective transient Treg depletion strategies may be therapeutic in at least a proportion of spontaneous tumors developing in the host. Cancer research (2010; 70: 7800) **"Conditional regulatory T-cell depletion releases adaptive immunity preventing carcinogenesis and suppressing established tumor growth."** Author(s):Teng MW,Ngiow SF,von Scheidt B,McLaughlin N,Sparwasser T,Smyth MJ PubMed Article URL:http://dx.doi.org/10.1158/0008-5472.CAN-10-1681
Mouse / 1:60	25-5941 was used in Flow cytometry/Cell sorting to study the role of mechanical strain in controlling site-specific localisation of inflammation and tissue damage in arthritis. Nature communications (2018; 9:) **"Mechanical strain determines the site-specific localization of inflammation and tissue damage in arthritis."** Author(s):Cambré I,Gaublomme D,Burssens A,Jacques P,Schryvers N,De Muynck A,Meuris L,Lambrecht S,Carter S,de Bleser P,Saeys Y,Van Hoorebeke L,Kollias G,Mack M,Simoens P,Lories R,Callewaert N,Schett G,Elewaut D PubMed Article URL:http://dx.doi.org/10.1038/s41467-018-06933-4
Mouse / Not Cited	25-5941 was used in Flow cytometry/Cell sorting to study the cellular cross-talk between natural killer T cells and natural killer cells. European journal of immunology (2015; 45: 1794) **"Activated NKT cells imprint NK-cell differentiation, functionality and education."** Author(s):Riese P,Trittel S,May T,Cicin-Sain L,Chambers BJ,Guzmán CA PubMed Article URL:http://dx.doi.org/10.1002/eji.201445209
Mouse / Not Cited	25-5941 was used in Flow cytometry/Cell sorting to generate a mouse model expressing chimeric antigen receptors (CARs) specific for a tumour antigen under a pan-hematopoietic promoter. PloS one (2016; 10:) **"Expression of a Chimeric Antigen Receptor in Multiple Leukocyte Lineages in Transgenic Mice."** Author(s):Yong CS,Westwood JA,Schröder J,Papenfuss AT,von Scheidt B,Moeller M,Devaud C,Darcy PK,Kershaw MH PubMed Article URL:http://dx.doi.org/10.1371/journal.pone.0140543

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	25-5941 was used in Flow cytometry/Cell sorting to suggest that MAPK-activated protein kinase 2 deletion leads to an expansion of stimulatory CD103+ dendritic cells, mounting a potent CD8+ T cell anti-tumour response in mice.
Mouse / Not Cited	Scientific reports (2017; 7:) **"Loss of MAPK-activated protein kinase 2 enables potent dendritic cell-driven anti-tumour T cell response."** Author(s):Soukup K,Halfmann A,Dillinger B,Poyer F,Martin K,Blauensteiner B,Kauer M,Kuttke M,Schabbauer G,Dohnal AM PubMed Article URL:http://dx.doi.org/10.1038/s41598-017-12208-7
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	Cancer research (2013; 73: 119) **"Dose-dense chemotherapy improves mechanisms of antitumor immune response."** Author(s):Chang CL,Hsu YT,Wu CC,Lai YZ,Wang C,Yang YC,Wu TC,Hung CF PubMed Article URL:http://dx.doi.org/10.1158/0008-5472.CAN-12-2225
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	Pigment cell & melanoma research (2021; 34: 605) **"Transient activation of tumoral DNA damage tolerance pathway coupled with immune checkpoint blockade exerts durable tumor regression in mouse melanoma."** Author(s):Zhuo M,Gorgun FM,Tyler DS,Englander EW PubMed Article URL:http://dx.doi.org/10.1111/pcmr.12943
Mouse / Not Cited	25-5941 was used in Flow cytometry/Cell sorting to investigate the role of IL-17 during C. muridarum genital tract infection.
	Infection and immunity (2011; 79: 1349) **"Interleukin-17 contributes to generation of Th1 immunity and neutrophil recruitment during Chlamydia muridarum genital tract infection but is not required for macrophage influx or normal resolution of infection."** Author(s):Scurlock AM,Frazer LC,Andrews CW,O'Connell CM,Foote IP,Bailey SL,Chandra-Kuntal K,Kolls JK,Darville T PubMed Article URL:http://dx.doi.org/10.1128/IAI.00984-10
Mouse / Not Cited	25-5941 was used in Flow cytometry/Cell sorting to investigate how natural killer cells integrate signals from antibody-coated targets and stress ligands on tumour cells.
	Journal of immunology (Baltimore, Md. : 1950) (2012; 189: 5493) **"Cutting edge: tumor-targeting antibodies enhance NKG2D-mediated NK cell cytotoxicity by stabilizing NK cell-tumor cell interactions."** Author(s):Deguine J,Breart B,Lemaître F,Bousso P PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.1202065
Mouse / 1:200	Oncogenesis (2019; 8:) **"Natural killer cells limit the clearance of senescent lung adenocarcinoma cells."** Author(s):Stokes KL,Cortez-Retamozo V,Acosta J,Lauderback B,Robles-Oteiza C,Cicchini M,Pittet MJ,Feldser DM PubMed Article URL:http://dx.doi.org/10.1038/s41389-019-0133-3
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	Journal of immunology (Baltimore, Md. : 1950) (2011; 187: 6301) **"Granzyme B regulates antiviral CD8+ T cell responses."** Author(s):Salti SM,Hammelev EM,Grewal JL,Reddy ST,Zemple SJ,Grossman WJ,Grayson MH,Verbsky JW PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.1100891
Mouse / Not Cited	25-5941 was used in Flow cytometry/Cell sorting to determine the role of myeloid cells in the vascular vs. cerebral consequences of exposure to aircraft noise.
	Basic research in cardiology (2021; 116:) **"Ablation of lysozyme M-positive cells prevents aircraft noise-induced vascular damage without improving cerebral side effects."** Author(s):Frenis K,Helmstädter J,Ruan Y,Schramm E,Kalinovic S,Kröller-Schön S,Bayo Jimenez MT,Hahad O,Oelze M,Jiang S,Wenzel P,Sommer CJ,Frauenknecht KBM,Waisman A,Gericke A,Daiber A,Münzel T,Steven S PubMed Article URL:http://dx.doi.org/10.1007/s00395-021-00869-5
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	The Journal of experimental medicine (2016; 213: 1973) **"NKT sublineage specification and survival requires the ubiquitin-modifying enzyme TNFAIP3/A20."** Author(s):Drennan MB,Govindarajan S,Verheugen E,Coquet JM,Staal J,McGuire C,Taghon T,Leclercq G,Beyaert R,van Loo G,Lambrecht BN,Elewaut D PubMed Article URL:http://dx.doi.org/10.1084/jem.20151065

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	25-5941 was used in Flow cytometry/Cell sorting to resolve long-standing questions regarding the conditional requirement for TH amongst pathogens and reveal a remarkable degree of plasticity in the function of CD4+ T cells, which can be quickly converted to Tregin vivo by infection-mediated immune modulation.
Mouse / Not Cited	Cell reports (2020; 31:) **"TLR9 Sensing of Self-DNA Controls Cell-Mediated Immunity to Listeria Infection via Rapid Conversion of Conventional CD4⁺ T Cells to T_{reg}."** Author(s):Dolina JS,Lee J,Griswold RQ,Labarta-Bajo L,Kannan S,Greenbaum JA,Bahia El Idrissi N,Pont MJ,Croft M, Schoenberger SP PubMed Article URL:http://dx.doi.org/10.1016/j.celrep.2020.01.040
Mouse / Not Cited	25-5941 was used in Flow cytometry/Cell sorting to study T cell immunoglobulin domain and mucin domain-3 as a regulator in renal inflammation. Molecular metabolism (2019; 23: 24) **"Tim-3 aggravates podocyte injury in diabetic nephropathy by promoting macrophage activation via the NF-B /TNF- pathway."** Author(s):Yang H,Xie T,Li D,Du X,Wang T,Li C,Song X,Xu L,Yi F,Liang X,Gao L,Yang X,Ma C PubMed Article URL:http://dx.doi.org/10.1016/j.molmet.2019.02.007
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Mouse / Not Cited	25-5941-82 was used in Flow Cytometry to provide protocols and guidelines in using three mouse restraint models, namely prolonged restraint stress, repeated restraint stress, and chronic variable stress, to examine immunological homeostasis/competence, or lack thereof, under stress with or without habituation. STAR protocols (2021; 2:) **"Physical restraint mouse models to assess immune responses under stress with or without habituation."** Author(s):Ding JX,Rudak PT,Inoue W,Haeryfar SMM PubMed Article URL:http://dx.doi.org/10.1016/j.xpro.2021.100838
Mouse / Not Cited	25-5941 was used in Flow cytometry/Cell sorting to provide demonstration of DA-DRD5 signaling in colonic macrophages controlling the development of colitis by regulating M1/M2 macrophage polarization. Cell death & disease (2021; 12:) **"DA-DRD5 signaling controls colitis by regulating colonic M1/M2 macrophage polarization."** Author(s):Liu L,Wu Y,Wang B,Jiang Y,Lin L,Li X,Yang S PubMed Article URL:http://dx.doi.org/10.1038/s41419-021-03778-6
Mouse / Not Cited	25-5941 was used in Flow cytometry/Cell sorting to study complement signalling as regulating a proinflammatory response to SARS-CoV infection. mBio (2018; 9:) **"Complement Activation Contributes to Severe Acute Respiratory Syndrome Coronavirus Pathogenesis."** Author(s):Gralinski LE,Sheahan TP,Morrison TE,Menachery VD,Jensen K,Leist SR,Whitmore A,Heise MT,Baric RS PubMed Article URL:http://dx.doi.org/10.1128/mBio.01753-18
Mouse / Not Cited	25-5941 was used in Flow cytometry/Cell sorting to investigate the mechanism by which commensal bacteria modulate the efficiency of tumoral immune surveillance in mucosal tissues. Cancer research (2014; 74: 4030) **"Microbiota modulate tumoral immune surveillance in lung through a T17 immune cell-dependent mechanism."** Author(s):Cheng M,Qian L,Shen G,Bian G,Xu T,Xu W,Shen G,Hu S PubMed Article URL:http://dx.doi.org/10.1158/0008-5472.CAN-13-2462

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	25-5941 was used in Flow cytometry/Cell sorting to study the effects of MAPK signalling pathways in group 3 innate immune lymphocytes using Bacillus anthracis.
Mouse / Not Cited	PLoS pathogens (2017; 13:) **"Bacillus anthracis lethal toxin negatively modulates ILC3 function through perturbation of IL-23-mediated MAPK signaling."** Author(s):Seshadri S,Allan DSJ,Carlyle JR,Zenewicz LA PubMed Article URL:http://dx.doi.org/10.1371/journal.ppat.1006690
	25-5941 was used in Flow cytometry/Cell sorting to indicate that CD47 blockade not only enhances the function of innate immune cells but also links to adaptive immune responses through improved APC function.
Mouse / Not Cited	Cell reports (2020; 31:) **"Immunotherapeutic Blockade of CD47 Inhibitory Signaling Enhances Innate and Adaptive Immune Responses to Viral Infection."** Author(s):Cham LB,Torrez Dulgeroff LB,Tal MC,Adomati T,Li F,Bhat H,Huang A,Lang PA,Moreno ME,Rivera JM,Galkina SA,Kosikova G,Stoddart CA,McCune JM,Myers LM,Weissman IL,Lang KS,Hasenkrug KJ PubMed Article URL:http://dx.doi.org/10.1016/j.celrep.2020.03.058
	25-5941-82 was used in Flow Cytometry to show that memory T cells collapsed in secondary lymphoid organs in the context of dietary restriction (DR) but dramatically accumulated within the bone marrow (BM), where they adopted a state associated with energy conservation.
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Mouse / Not Cited	PLoS biology (2019; 17:) **"miR-181a/b-1 controls thymic selection of Treg cells and tunes their suppressive capacity."** Author(s):yszkiewicz M,Winter SJ,Witzlau K,Föhse L,Brownlie R,Puchaka J,Verheyden NA,Kunze-Schumacher H,Imelmann E,Blume J,Raha S,Sekiya T,Yoshimura A,Frueh JT,Ullrich E,Huehn J,Weiss S,Gutierrez MG,Prinz I,Zamoyska R,Zitara N,Krueger A PubMed Article URL:http://dx.doi.org/10.1371/journal.pbio.2006716

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