Brilliant Violet 421™ anti-mouse NK-1.1 Antibody

Catalog# / Size	108731 / 125 µL 108741 / 50 µg 108732 / 500 µL
Clone	PK136
Regulatory Status	RUO
Other Names	NKR-P1C, NKR-P1B, Ly-55, CD161, CD161b, CD161c
Isotype	Mouse IgG2a, κ
Description	NK-1.1 surface antigen, also known as CD161b/CD161c and Ly-55, is encoded by the NKR-P1B/NKR-P1C gene. It is expressed on NK cells and NK-T cells in some mouse strains, including C57BL/6, FVB/N, and NZB, but not AKR, BALB/c, CBA/J, C3H, DBA/1, DBA/2, NOD, SJL, and 129. Expression of NKR-P1C antigen has been correlated with lysis of tumor cells *in vitro* and rejection of bone marrow allografts *in vivo*. NK-1.1 has also been shown to play a role in NK cell activation, IFN-γ production, and cytotoxic granule release. NK-1.1 and DX5 are commonly used as mouse NK cell markers.

Product Details

Verified Reactivity	Mouse
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	NK-1$^+$ cells from mouse spleen and bone marrow
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA).
Preparation	The antibody was purified by affinity chromatography and conjugated with Brilliant Violet 421™ under optimal conditions.
Concentration	µg sizes: 0.2 mg/mL µL sizes: lot-specific (to obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.)
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. **Do not freeze.**
Application	FC - *Quality tested* SB - *Reported in the literature, not verified in house*
Recommended Usage	Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. For immunofluorescent staining using the µg size, the suggested use of this reagent is ≤ 0.5 µg per million cells in 100 µl volume. For immunofluorescent staining using µl sizes, the suggested use of this reagent is 5 µl per million cells in 100 µl staining volume or 5 µl per 100 µl of whole blood. It is recommended that the reagent be titrated for optimal performance for each application. Brilliant Violet 421™ excites at 405 nm and emits at 421 nm. The standard bandpass filter 450/50 nm is recommended for detection. Brilliant Violet 421™ is a trademark of Sirigen Group Ltd. Learn more about Brilliant Violet™. This product is subject to proprietary rights of Sirigen Inc. and is made and sold under license from Sirigen Inc. The purchase of this product conveys to the buyer a non-transferable right to use the purchased product for research purposes only. This product may not be resold or incorporated in any manner into another product for resale. Any use for therapeutics or diagnostics is strictly prohibited. This product is covered by U.S. Patent(s), pending patent applications and foreign equivalents.
Excitation Laser	Violet Laser (405 nm)

Application Notes

Additional reported applications (for the relevant formats) include: immunoprecipitation[1,2], complement-dependent cytotoxicity[3], *in vivo* depletion[4,5,9,10], mediation of *in vitro* redirected lysis[6], blocking of NK cell function[7], induction of proliferation[8], immunohistochemical staining of frozen sections[11], immunofluorescence microscopy[11], and spatial biology (IBEX)[16,17]. The LEAF™ purified antibody (Endotoxin <0.1 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays (Cat. No. 108712).

Additional Product Notes

Iterative Bleaching Extended multi-pleXity (IBEX) is a fluorescent imaging technique capable of highly-multiplexed spatial analysis. The method relies on cyclical bleaching of panels of fluorescent antibodies in order to image and analyze many markers over multiple cycles of staining, imaging, and, bleaching. It is a community-developed open-access method developed by the Center for Advanced Tissue Imaging (CAT-I) in the National Institute of Allergy and Infectious Diseases (NIAID, NIH).

Application References

(PubMed link indicates BioLegend citation)

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Product Citations

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RRID

AB_10895916 (BioLegend Cat. No. 108731)
AB_2562561 (BioLegend Cat. No. 108741)
AB_2562218 (BioLegend Cat. No. 108732)

Antigen Details

Structure	NKR-P1 gene family
Distribution	NK and NK-T cells in the NK1.1 mouse strains (C57BL, FVB/N, NZB)
Function	NK cell activation, IFN-γ production, cytotoxic granule release
Cell Type	NK cells, NKT cells
Biology Area	Immunology, Innate Immunity
Antigen References	1. Lanier LL. 1997. *Immunity* 6:371. 2. Yokoyama WM, *et al.* 1993. *Ann. Rev. Immunol.* 11:613. 3. Koo GC, *et al.* 1986. *J. Immunol.* 137:3742. 4. Giorda R, *et al.* 1991. *J. Immunol.* 147:1701.
Gene ID	17059

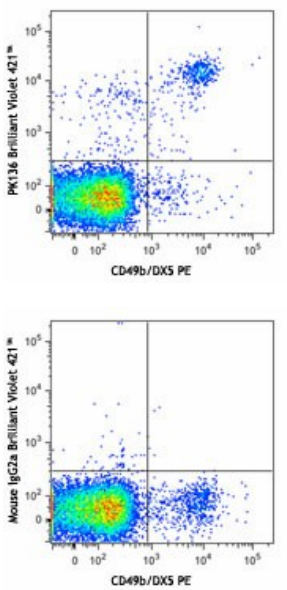
Related Protocols

Cell Surface Flow Cytometry Staining Protocol

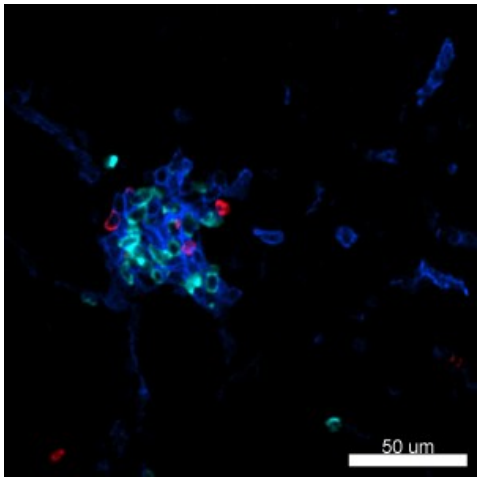
Other Formats

APC anti-mouse NK-1.1, Biotin anti-mouse NK-1.1, FITC anti-mouse NK-1.1, PE anti-mouse NK-1.1, Purified anti-mouse NK-1.1, PE/Cyanine7 anti-mouse NK-1.1, PE/Cyanine5 anti-mouse NK-1.1, Alexa Fluor® 488 anti-mouse NK-1.1, Alexa Fluor® 647 anti-mouse NK-1.1, Pacific Blue™ anti-mouse NK-1.1, Brilliant Violet 711™ anti-mouse NK-1.1, APC/Cyanine7 anti-mouse NK-1.1, PerCP anti-mouse NK-1.1, PerCP/Cyanine5.5 anti-mouse NK-1.1, Alexa Fluor® 700 anti-mouse NK-1.1, Brilliant Violet 421™ anti-mouse NK-1.1, Brilliant Violet 570™ anti-mouse NK-1.1, Brilliant Violet 650™ anti-mouse NK-1.1, Brilliant Violet 510™ anti-mouse NK-1.1, Brilliant Violet 605™ anti-mouse NK-1.1, Purified anti-mouse NK-1.1 (Maxpar® Ready), PE/Dazzle™ 594 anti-mouse NK-1.1, Brilliant Violet 785™ anti-mouse NK-1.1, APC/Fire™ 750 anti-mouse NK-1.1, TotalSeq™-A0118 anti-mouse NK-1.1, Ultra-LEAF™ Purified anti-mouse NK-1.1, TotalSeq™-B0118 anti-mouse NK-1.1, TotalSeq™-C0118 anti-mouse NK-1.1, PE/Fire™ 810 anti-mouse NK-1.1

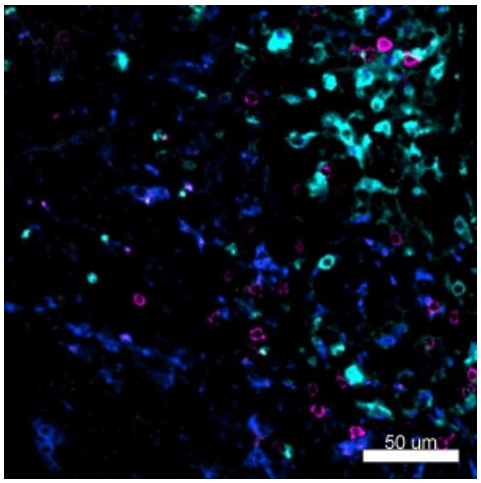
Product Data



C57BL/6 mouse splenocytes were stained with CD49b/DX5 PE and NK1.1 (clone PK136) Brilliant Violet 421™ (top) or mouse IgG2a, κ Brilliant Violet 421™ isotype control (bottom).



Confocal image of C57BL/6 mouse liver sample acquired using the IBEX method of highly multiplexed antibody-based imaging: CD8 (cyan) in Cycle 2, CD44 (blue) in Cycle 2, and NK1.1 (red) in Cycle 3. Tissues were prepared using ~1% (vol/vol) formaldehyde and a detergent. Following fixation, samples are immersed in 30% (wt/vol) sucrose for cryoprotection. Images are courtesy of Drs. Andrea J. Radtke and Ronald N. Germain of the Center for Advanced Tissue Imaging (CAT-I) in the National Institute of Allergy and Infectious Diseases (NIAID, NIH).



Mice were injected subcutaneously with sheep red blood cells in a volume of 25 µl per site on days 0 and 4 and harvested on day 11. Confocal image of C57BL/6 mouse lymph node acquired using the IBEX method of highly multiplexed antibody-based imaging: F4/80 (cyan) in Cycle 3, CD68 (blue) in Cycle 6, and NK1.1 (magenta) in Cycle 9. Tissues were prepared using ~1% (vol/vol) formaldehyde and a detergent. Following fixation, samples are immersed in 30% (wt/vol) sucrose for cryoprotection. Images are courtesy of Drs. Andrea J. Radtke and Ronald N. Germain of the Center for Advanced Tissue Imaging (CAT-I) in the National Institute of Allergy and Infectious Diseases (NIAID, NIH).

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