

Technical Data Sheet

BV510 Mouse Anti-Mouse NK-1.1

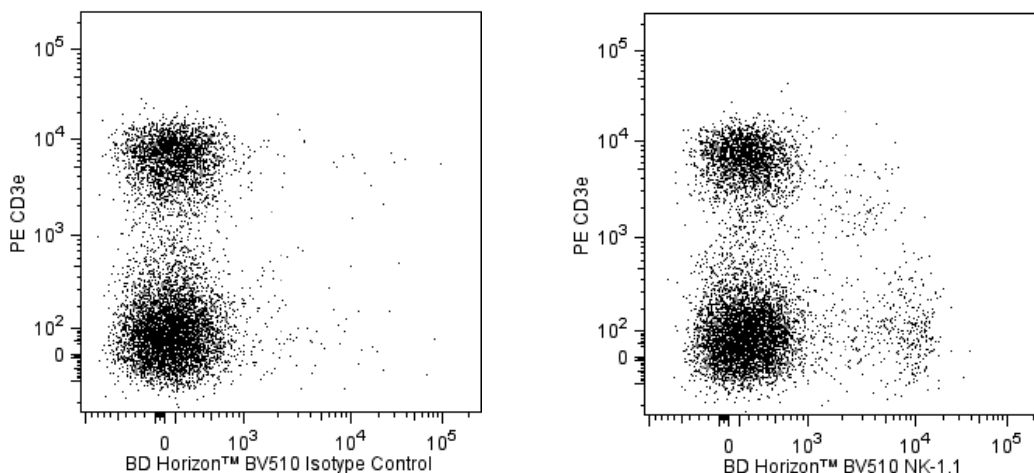
Product Information

Material Number:	563096
Alternate Name:	Klrblb, CD161b, Nkrp1b; Klrblc, CD161c, NK1.1, Nkrp1c
Size:	50 µg
Concentration:	0.2 mg/ml
Clone:	PK136
Immunogen:	Mouse NK-1+ Spleen and Bone Marrow Cells
Isotype:	Mouse (C3H x BALB/c) IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

In the mouse, at least three members of the *Klrbl* (Killer cell lectin-like receptor, subfamily *b*; formerly *NKR-P1*) gene family have been identified (*Klrbl1a/NKR-P1A*, *Klrbl1b/NKR-P1B*, and *Klrbl1c/NKR-P1C*); but in the human gene family, a single homologue has been designated *KLRB1*, *NKR-P1A*, or *CD161*. The KLRB1/NKR-P1 family of proteins are type-II-transmembrane C-type lectin receptors. KLRB1C/NKR-P1C activates NK-cell cytotoxicity, while KLRB1B/NKR-P1B functions as an inhibitory receptor. KLRB1B/NKR-P1B protein has intracellular Immunoreceptor Tyrosine-based Inhibitory Motif (ITIM), while KLRB1C/NKR-P1C lacks ITIM and activates via association with Fc Receptor γ chain. Strikingly, KLRB1B/NKR-P1B and KLRB1C/NKR-P1C share 96% amino acid sequence identity in their extracellular C-type lectin domains. The PK136 antibody reacts with the NK-1.1 surface antigen (CD161c) encoded by the *Klrbl1c/NKR-P1C* gene expressed on natural killer (NK) cells in selected strains of mice (eg, C57BL, FVB/N, NZB, but not A, AKR, BALB/c, CBA/J, C3H, C57BR, C58, DBA/1, DBA/2, NOD, SJL, 129) and the CD161b antigen encoded by the *Klrbl1b/NKR-P1B* gene expressed only on Swiss NIH and SJL mice, but not on C57BL/6. Expression of KLRB1C/NKR-P1C protein is correlated with the ability to lyse tumor cells in vitro and to mediate rejection of bone marrow allografts. The NK-1.1 marker is useful in defining NK cells; however, the antigen is also expressed on a rare, specialized population of T lymphocytes (NK-T cells) and some cultured monocytes. Plate-bound PK136 mAb, in combination with low concentrations of IL-2, induces proliferation of a subset of NK cells.

The antibody was conjugated to BD Horizon™ BV510 which is part of the BD Horizon™ Brilliant Violet™ family of dyes. With an Ex Max of 405-nm and Em Max at 510-nm, BD Horizon™ BV510 can be excited by the violet laser and detected in the BD Horizon™ V500 (525/50-nm) filter set. BD Horizon™ BV510 conjugates are useful for the detection of dim markers off the violet laser.



Two-color flow cytometric analysis of NK-1.1 expression on mouse splenocytes. Splenic leucocytes from a C57BL/6 mouse were stained with PE Hamster Anti-Mouse CD3e antibody (Cat. No. 553064/553063/561824) and either BD Horizon™ BV510 Mouse IgG2a, κ Isotype Control (Cat. No. 563027, Left Panel) or BD Horizon™ BV510 Mouse Anti-Mouse NK-1.1 (Cat. No. 563096; Right Panel). Two-color flow cytometric dot plots show the correlated expression patterns of NK1.1 (or Ig isotype control staining) versus CD3e for gated events with the forward and side light-scatter characteristics of viable splenic leucocytes. Flow cytometric analysis was performed using a BD™ LSR II Flow Cytometer System.

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Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated with BD Horizon™ BV510 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV510 were removed.

Application Notes

Application

Flow cytometry

Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 ml	(none)
563027	BV510 Mouse IgG2a, κ Isotype Control	50 µg	G155-178
553064	PE Hamster Anti-Mouse CD3e	0.2 mg	145-2C11
553063	PE Hamster Anti-Mouse CD3e	0.1 mg	145-2C11
561824	PE Hamster Anti-Mouse CD3e	25 µg	145-2C11

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
3. An isotype control should be used at the same concentration as the antibody of interest.
4. Please refer to www.bdbiosciences.com/pharming/protocols for technical protocols.
5. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
7. Brilliant Violet™ 510 is a trademark of Sirigen.

References

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Carlyle JR, Martin A, Mehra A, Attisano L, Tsui FW, Zuniga-Pflucker JC. Mouse NKR-P1B, a novel NK1.1 antigen with inhibitory function. *J Immunol*. 1999; 162(10):5917-5923. (Clone-specific: Cytotoxicity, Flow cytometry, Immunoprecipitation, Inhibition, Stimulation)

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Kung SK, Su RC, Shannon J, Miller RG. The NKR-P1B gene product is an inhibitory receptor on SJL/J NK cells. *J Immunol*. 1999; 162(10):5876-5887. (Clone-specific: Activation, Calcium Flux, Flow cytometry, Fluorescence activated cell sorting, Immunoprecipitation, Inhibition, Stimulation)

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