Technical Data Sheet

Purified Rat Anti-Mouse CD49b

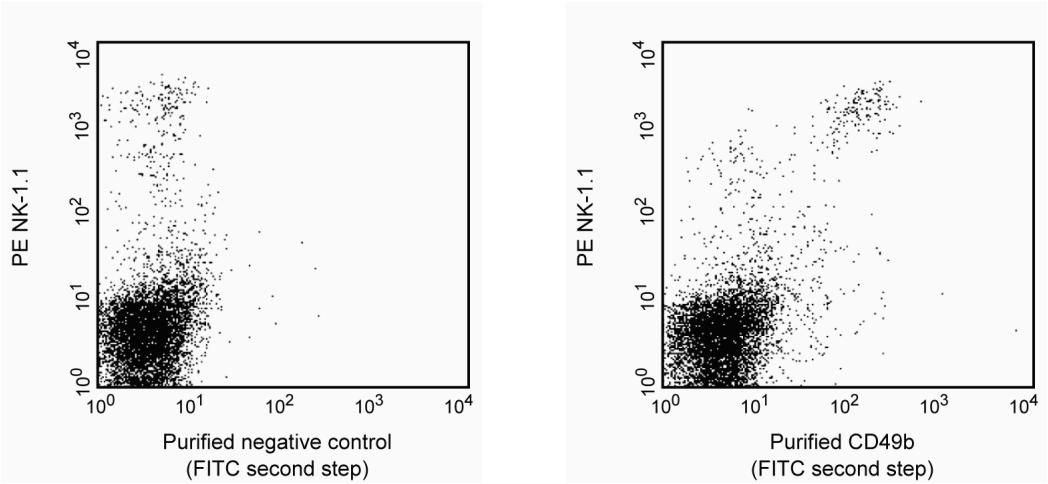
Product Information

Material Number:	**553855**
Alternate Name:	Pan-NK cells
Size:	0.5 mg
Concentration:	0.5 mg/ml
Clone:	DX5
Immunogen:	Mouse (C57BL/6) NK1.1+ cells propagated with rIL-2
Isotype:	Rat (LEW) IgM, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The rat anti-mouse CD49b antibody (clone DX5) reacts with the integrin α2 chain (CD49b), a 150 kDa transmembrane glycoprotein that non-covalently associates with CD29 (integrin β1), to form the integrin α2β1 complex known as VLA-2. The rat anti-mouse CD49b antibody (clone DX5) has been reported to identify the majority of NK cells and a small T-cell subpopulation in most strains (e.g., A/J, AKR, BALB/c, C3H/HeJ, C57BL/6, C57BL/10, C57BR, C58, CBA/Ca, DBA/1, DBA/2, SJL, SWR, 129/J, but not NOD). It has also been observed that this antibody recognizes platelets, which express high levels of CD49b. Multi-parameter flow cytometric analysis has demonstrated that most lymphocytes which express NK-1.1 (NKR-P1B and NKR-P1C), as detectable by mouse anti-mouse NK-1.1 antibody (clone PK136), also express the DX5 antigen. Small DX5+ NK-1.1- and DX5- NK-1.1+ subsets are found, especially among the CD3-positive population. Some CD49b+ NK cells have been reported to gradually lose reactivity with the rat anti-mouse CD49b antibody (clone DX5) when cultured in the presence of recombinant human IL-2, and the resulting DX5- cells have weakened cytotoxic activity when compared to the remaining DX5+ cells, indicating that the DX5 antibody distinguishes functional subsets of NK cells. No activation or blocking activity of the rat anti-mouse antibody (clone DX5) has been observed while staining of splenic NK cells by this antibody reportedly can be blocked by hamster anti-mouse CD49b antibody (clone HMα2).

This antibody is routinely tested by flow cytometric analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.



Detection of NK cells with monoclonal antibodies. *Freshly isolated splenocytes from a C57BL/6 mouse were simultaneously incubated with PE mouse anti-mouse NK-1.1 antibody (NKR-P1B and NKR-P1C) (clone PK136) (MN 557391, both panels), and purified rat anti-mouse CD49b antibody (clone DX5) (right panel), followed by a FITC mouse anti-rat IgM antibody (clone G53-238) (Cat. No. 553887, both panels). Flow cytometry was performed on a BD FACScan™ instrument (BD Biosciences, San Jose, CA).*

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Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at 4° C.

Application Notes

Application

Flow cytometry	Routinely Tested
Cytotoxicity	Reported
Immunohistochemistry-frozen	Not Recommended
Immunohistochemistry-paraffin	Not Recommended

Suggested Companion Products

Catalog Number	Name	Size	Clone
557391	PE Mouse Anti-Mouse NK-1.1	0.1 mg	PK136
553887	FITC Mouse Anti-Rat IgM	0.5 mg	G53-238
553940	Purified Rat IgM, κ Isotype Control	0.5 mg	R4-22

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. 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.
4. Sodium azide is a reversible inhibitor of oxidative metabolism; therefore, antibody preparations containing this preservative agent must not be used in cell cultures nor injected into animals. Sodium azide may be removed by washing stained cells or plate-bound antibody or dialyzing soluble antibody in sodium azide-free buffer. Since endotoxin may also affect the results of functional studies, we recommend the NA/LE™ (No Azide/Low Endotoxin) antibody format, if available, for in vitro and in vivo use.

References

Abrams J. Personal Communication. .(Immunogen: Activation, Blocking)
Arase H, Saito T, Phillips JH, Lanier LL. Cutting edge: the mouse NK cell-associated antigen recognized by DX5 monoclonal antibody is CD49b (alpha 2 integrin, very late antigen-2). *J Immunol.* 2001; 167(3):1141-1144.(Clone-specific: Blocking, Cytotoxicity, Flow cytometry)
Moore TA, von Freeden-Jeffry U, Murray R, Zlotnik A. Inhibition of gamma delta T cell development and early thymocyte maturation in IL-7 -/- mice. *J Immunol.* 1996; 157(6):2366-2373.(Biology)
Ortaldo JR, Winkler-Pickett R, Mason AT, Mason LH. The Ly-49 family: regulation of cytotoxicity and cytokine production in murine CD3+ cells. *J Immunol.* 1998; 160(1):1158-1165.(Biology)
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