

Technical Data Sheet

PE Mouse Anti-Mouse CD212

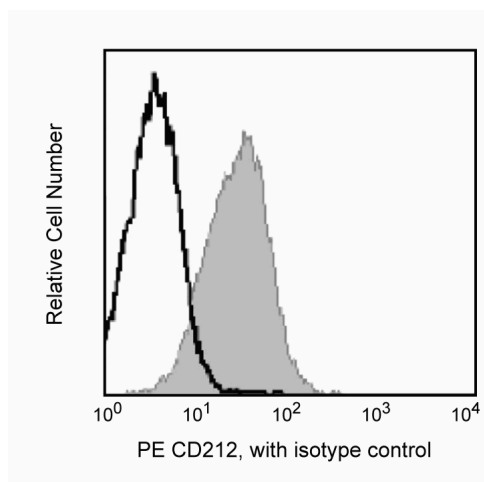
Product Information

Material Number:	551974
Alternate Name:	IL-12 Receptor β 1 chain
Size:	0.1 mg
Concentration:	0.2 mg/ml
Clone:	114
Isotype:	Mouse IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing $\leq 0.09\%$ sodium azide.

Description

The 114 antibody reacts with mouse CD212 (the β 1 subunit of IL-12R β 1), originally termed IL-12R β , of the mouse IL-12 receptor complex. The IL-12R β 1 subunit associates with a β 2 subunit to form a heterodimeric IL-12 receptor complex. Each one of the IL-12R subunits exhibits low affinity for IL-12, but in combination, they bind IL-12 with high affinity. The IL-12R β 1 subunit interacts primarily with IL-12 p40 whereas the IL-12R β 2 binds both to IL-12 p40 and IL-12 p35. IL-12R β 1 is required for high affinity binding of IL-12 but IL-12R β 2 is required for signaling. IL-12R β 1 has more recently been described to bind IL-23, a heterodimer formed of the p40 subunit from IL-12, and p19. The cytoplasmic regions of the β 1 and β 2 subunits contain the box1 and box2 motifs found in other cytokine receptors such as gp130, LIFR and G-CSFR. IL-12R β 1 are primarily expressed by activated T cells and NK cells. Experiments with IL-12R β 1 deficient mice have shown that IL-12R β 1 is necessary for mouse T and NK cell responsiveness to IL-12 p75. The 114 antibody was generated by immunizing IL-12R β 1 deficient mice of (129 x BALB/c)F1 background with mouse Ba/F3 cells that were stably transfected with IL-12R β 1.

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.



Expression of cell surface IL-12R β 1 by LAK cells. Mouse splenocytes from C57BL/6 mice were treated with an ammonium chloride lysing buffer to remove the red blood cells. Cells were subsequently cultured with 3000 U/ml of mouse IL-2 for 3-4 days at 37°C. At 3-4 days the adherent fraction of the cells was separated from the non-adherent fraction and fresh IL-2 was added (3000 U/ml) for an additional 3-4 days. Following culture both of the adherent and non-adherent cells were harvested, washed, blocked with mouse Fc Block™ (Cat. No. 553141) and stained with R-PE-conjugated 114 antibody (1 μ g/test, Cat. No. 551974). Staining with the 114 antibody (filled histograms) is compared to staining obtained using the isotype control antibody (open histograms). The histograms in the figure were derived from gated events with the light scattering characteristics of viable lymphocytes.

Preparation and Storage

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

The antibody was conjugated with R-PE under optimum conditions, and unconjugated antibody and free PE were removed by gel filtration chromatography.

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

Application Notes

Application

Flow cytometry/immunoassay

Routinely Tested

BD Biosciences

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Recommended Assay Procedure:

Immunofluorescent Staining and Flow Cytometric Analysis. The R-PE-conjugated 114 antibody (Cat. No. 551974) can be used for the immunofluorescent staining ($\leq 1 \mu\text{g}$ antibody/ 10^6 cells) and flow cytometric analysis of mouse T cells and NK cells to measure their expressed levels of surface IL-12R β 1. An appropriate PE-conjugated immunoglobulin isotype control is clone G155-178 (Cat. No. 553457).

Suggested Companion Products

<u>Catalog Number</u>	<u>Name</u>	<u>Size</u>	<u>Clone</u>
553457	PE Mouse IgG2a, κ Isotype Control	0.1 mg	G155-178
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.1 mg	2.4G2

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to wwwbdbiosciences.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.

References

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