Technical Data Sheet

Purified Rat Anti-Mouse CD124

Product Information

Material Number: 551853
Alternate Name: IL-4 Receptor α chain
Size: 0.1 mg
Concentration: 0.5 mg/ml
Clone: mIL4R-M1
Isotype: Rat IgG2a, κ
Reactivity: QC Testing: Mouse
Storage Buffer: Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The mIL4R-M1 monoclonal antibody specifically binds to CD124 which is also known as the α subunit of the mouse Interleukin-4 Receptor (IL-4Rα). The mouse IL-4Rα is a 140 kDa transmembrane glycoprotein that is expressed by B and T lymphocytes and a variety of other hematopoietic and nonhematopoietic cells and cell lines. The cell surface IL-4Rα chain binds IL-4 with high affinity and associates with either the common γ chain (IL-4Rα/γc; aka, type I IL-4R) or the IL-13 receptor alpha subunit (IL-4Rα/IL-13Rα; aka, type II IL-4R complex) to form two distinct types of signal-transducing IL-4R complexes. The type I IL-4 receptor complex specifically binds IL-4 whereas the type II IL-4R binds and transduces signals from either IL-4 or IL-13. The mIL4R-M1 antibody blocks IL-4 binding to cells and is reported to be a potent inhibitor of IL-4’s biological activities. The mIL4R-M1 antibody also recognizes naturally-occurring, soluble truncated forms of IL-4Rα (sIL-4R) that result either from enzymatic cleavage of the cell surface extracellular IL-4Rα domain or from differential mRNA splicing and secretion by cells. These sIL-4R retain their high-affinity ligand binding domain and appear to either enhance or inhibit IL-4-mediated functions depending on the relative local levels of IL-4 and sIL-4R.

Preparation and Storage

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

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Application Notes

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Recommended Assay Procedure:

**Immunofluorescent Staining and Flow Cytometric Analysis:** The purified form of the mIL4R-M1 antibody can be used for the immunofluorescent staining (≤ 1 µg antibody/10e6 cells) and flow cytometric analysis of nucleated mouse cells to measure their expressed levels of surface CD124. An appropriate purified Ig isotype control is clone R35-95 (Cat. No. 553927). A three-layer staining protocol is recommended for maximizing the detection of IL-4Rα expressed by cells as detailed in the figure legend.

**ELISA:** The purified mIL4R-M1 antibody is useful for a sandwich ELISA that measures soluble mouse CD124 protein levels. The biotinylated mIL-4R-M1 antibody (Cat. No. 552508) can be paired with the purified mIL4R-M2 (rat anti-mouse sIL-4R) antibody, Cat. No. 552952, and recombinant soluble mIL-4Rα as the standard.

**Neutralization:** The mIL4R-M1 antibody reportedly blocks IL-4’s binding to and biological effects on IL-4R-positive cells. Note: for use in in vivo and in vitro systems, our NA/LE (no azide, low endotoxin) format, Cat. No. 552288 is recommended.

**Immunoprecipitation:** The mIL4R-M1 antibody is reported to immunoprecipitate mouse IL-4R proteins. Please note that this application is not routinely tested at BD Biosciences Pharmingen.

**Suggested Companion Products**

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<tr>
<th>Catalog Number</th>
<th>Name</th>
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<td>553142</td>
<td>Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)</td>
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<td>2.4G2</td>
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<tr>
<td>553894</td>
<td>Biotin Mouse Anti-Rat IgG2a</td>
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<td>554061</td>
<td>PE Streptavidin</td>
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<td>553927</td>
<td>Purified Rat IgG2a, κ Isotype Control</td>
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<td>R35-95</td>
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<td>552288</td>
<td>Purified NA/LE Anti-mouse CD124</td>
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<td>mIL4R-M1</td>
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**Product Notices**

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
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**


