Technical Data Sheet

Purified Mouse Anti-Human CD126

Product Information

Material Number: 551462
Alternate Name: Interleukin 6 Receptor alpha chain; IL-6R alpha; IL-6Rα
Size: 0.5 mg
Concentration: 0.5 mg/ml
Clone: M5
Immunogen: CD126 Recombinant Protein
Isotype: Mouse (BALB/c) IgG1, κ
Reactivity: QC Testing: Human
Workshop: VI C63; IX 36
Storage Buffer: Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The M5 monoclonal antibody specifically binds to human CD126 which is also known as the alpha subunit of the human IL-6 Receptor (IL-6Rα). CD126 is an 80 kDa type I transmembrane glycoprotein, also known as gp80 and B cell stimulatory factor-2 (BSF-2) Receptor. The IL-6Rα subunit associates with the 130-160 kDa gp130 subunit (IL-6 Receptor β chain, CD130), that is shared with the receptor complexes for Leukemia Inhibitory Factor (LIF), Ciliary Neurotropic Factor (CNTF), Oncostatin M (OSM), IL-11, Cardiotropin 1 (CT-1) and possibly Neutrophin-1/B Cell-Stimulating Factor 3 (NTNT-1/BSF-3). The IL-6Rα chain binds IL-6 with low affinity; however the association with CD130 stabilizes the IL-6/IL-6Rα complex resulting in the formation of a high affinity ligand-receptor complex. The IL-6Rβ chain mediates signal transduction. CD126 is expressed at high levels by activated and EBV-transformed B cells, plasma cells and myeloma cells and at lower levels by most leukocytes, epithelial cells, fibroblasts, hepatocytes and neural cells. IL-6Rα exists in soluble form in human serum. The serum levels of soluble IL-6Rα appear to elevate in pathological situations such as multiple myeloma, Grave's disease, juvenile chronic arthritis and HIV. The M5 antibody is directed against an epitope not involved in interactions of CD126 with IL-6 or CD130.

Expression of cell surface IL-6Rα by human PBMC.

Human PBMC isolated by density centrifugation (Ficoll-Paque™) were blocked with normal polyclonal human IgG and stained with Purified Mouse Anti-Human CD126 (Cat. No. 551462) followed by Biotin Rat Anti-Mouse IgG1(Cat. No. 553441) and PE Streptavidin (Cat. No. 554061) in a three-layer staining protocol to amplify immunofluorescent signals. Staining with the Purified Mouse Anti-Human CD126 (filled histograms) is compared to staining obtained using Purified Mouse IgG1, κ Isotype Control (Cat. No. 555746; open histograms). Histogram in figure is gated on the CD19 lymphocytes. Note: Certain human cell lines or cell types (e.g., neutrophils, monocytes) can first be treated with reagents that block receptors for the Fc regions of immunoglobulin to avoid nonspecific immunofluorescent staining mediated by Fc receptors (for example see Browning et al).

Preparation and Storage

Store undiluted at 4°C.

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

The polyclonal antibody was purified from antiserum by affinity chromatography.

Application Notes

Application

<table>
<thead>
<tr>
<th>Application</th>
<th>Routinely Tested</th>
<th>Tested During Development</th>
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</thead>
<tbody>
<tr>
<td>Flow cytometry</td>
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<tr>
<td>ELISA Capture</td>
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ELISA: The Purified Mouse Anti-Human CD126 (Cat. No. 551462) can be used as the capture antibody, with recombinant soluble IL-6Ra as the standard, the Biotin Mouse Anti-Human CD126 (Cat. No. 552503) as a detection antibody for a sandwich ELISA measuring human IL-6Ra protein levels. Purified Mouse Anti-Human CD126 antibody should be titrated between 0.5-2 μg/ml to determine its optimal concentration for ELISA capture. To obtain linear standard curves, doubling dilutions of recombinant soluble human IL-6Ra, ranging from 500 to 2 pg/ml are recommended for inclusion in each ELISA plate. For specific methodology, please visit our website, http://wwwbdbiosciences.com/us/s/resources, and go to the protocols section under "ELISA and ELISPOT".

**Suggested Companion Products**

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<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
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<tbody>
<tr>
<td>553441</td>
<td>Biotin Rat Anti-Mouse IgG1</td>
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<td>A85-1</td>
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<tr>
<td>554061</td>
<td>PE Streptavidin</td>
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<td>555746</td>
<td>Purified Mouse IgG1, κ Isotype Control</td>
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<td>554656</td>
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<td>554657</td>
<td>Stain Buffer (BSA)</td>
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<td>552503</td>
<td>Biotin Mouse Anti-Human CD126</td>
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**Product Notices**

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. An isotype control should be used at the same concentration as the antibody of interest.
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. Ficoll-Paque is a trademark of Amersham Biosciences Limited.
5. 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.
6. Please refer to wwwbdbiosciences.com/pharmingen/protocols for technical protocols.

**References**


