Technical Data Sheet

Biotin Mouse Anti-Human CD126

Product Information

Material Number: 552503
Alternate Name: IL-6 Receptor α Chain
Size: 0.5 mg
Concentration: 0.5 mg/ml
Clone: M182
Immunogen: Mixture of U266, XG-1 and BWD41 cells
Isotype: Mouse IgG1, κ
Reactivity: QC Testing; Human
Storage Buffer: Aqueous buffered solution containing ≤0.09% sodium azide.

Description
The M182 antibody reacts with the α subunit of the human IL-6 Receptor (IL-6Ra, aka, CD126). The human IL-6Ra is an 80 kDa type I transmembrane glycoprotein, also known as B cell stimulatory factor-2 (BSF-2) receptor and IL-6 receptor. The IL-6Ra subunit associates with the 130-160 kDa gp130 subunit (IL-6 receptor β chain, CD130), that is shared with the receptors for Leukemia Inhibitory Factor (LIF), Ciliary Neurotropic Factor (CNTF), Oncostatin M (OSM), IL-11, Cardiotropin 1 (CT-1) and possibly Neurtrophilin-1/B Cell-Stimulating Factor 3 (NNT-1/BSF-3). The IL-6Ra chain binds IL-6 with low affinity, however the association with CD130 stabilizes the IL-6/IL-6Ra complex resulting in the formation of a high affinity complex. The IL-6 Ra chain mediates signal transduction. IL-6Ra's are expressed at high levels by activated and EBV-transformed B cells, plasma cells and myeloma cells and at lower levels by most leucocytes, epithelial cells, fibroblasts, hepatocytes and neural cells. IL-6Ra exists in soluble form in human serum. The serum levels of soluble IL-6Ra appear to elevate in pathological situations such as multiple myeloma, Grave's disease, juvenile chronic arthritis and HIV.10-13 The immunogen used to generate the M182 hybridoma was a mixture of U266, XG-1 (human myeloma cell line expressing membrane IL-6R) and BWD41 cells (murine thymoma cell line transfected with cDNA encoding the extracellular part of IL-6Rα).

Preparation and Storage

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

The antibody was conjugated with biotin under optimum conditions, and unreacted biotin was removed.

Store undiluted at 4°C.

Application Notes

Application

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<th>ELISA Detection</th>
<th>Routinely Tested</th>
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Recommended Assay Procedure:

ELISA Detection: The Biotinylated M182 antibody (Cat. No. 552503) is useful as a detection antibody for a sandwich ELISA measuring human IL-6Ra protein levels. Biotinylated M182 antibody can be paired with the purified M5 anti-human IL-6Ra (Cat. No. 551462) as the capture antibody, with recombinant soluble IL-6Ra (please inquire) as the standard. Biotin M182 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 human soluble IL-6Ra, ranging from 500 to 2 pg/ml are recommended for inclusion in each ELISA plate. For specific methodology, see BD Pharmingen's Immune Function Handbook, which is posted on our website at www.BDBiosciences.com.

Note: This ELISA antibody pair shows no cross-reactivity with the following recombinant human cytokines:

CD40, CD40L, CD14, IL-1Ra, IL-1R1, IL-1RII, IL-1α, IL-1β, IL-2, IL-3, IL-4, sIL-4R, IL-5, IL-6, IL-7, IL-8, IL-10, IL-12p40, IL-12p70, IL-13, IL-15, TNF-α, TNF-β, sTNFRI, sTNFRII, IFNγ, TRAIL, GM-CSF, TGFβ, Trx.

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.

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References


Keul R, Heinrich PC, Müller-Newen G, Müller K, Woo P. A possible role for soluble IL-6 receptor in the pathogenesis of systemic onset juvenile chronic arthritis. Cytokine. 1998 September; 10(9):726-734. (Biology)


