

Anti-Human IL-12/IL-23 p40 Purified


Catalog Number: 14-7127

Also Known As: Interleukin-12, IL12) p40

RUO: For Research Use Only

Product Information

Contents: Anti-Human IL-12/IL-23 p40 Purified


 Catalog Number: 14-7127

Clone: C8.3


Concentration: 0.5 mg/ml


Host/Isotype: Mouse IgG1

Formulation: aqueous buffer, 0.09% sodium azide, may contain carrier protein/stabilizer

 Temperature Limitation: Store at 2-8°C.

 Batch Code: Refer to Vial

 Use By: Refer to Vial

 Caution, contains Azide

Description

The C8.3 antibody reacts with the p40 monomer of human IL-12 and IL-23; the antibody preferentially binds to monomeric p40.

Interleukin-12 (IL-12) is a heterodimeric 70 kD (p70) cytokine composed of two covalently linked, glycosylated chains, 40kD (p40) and 35-kD (p35). IL-12 is mainly produced by monocytes, macrophages, and dendritic cells in response to bacterial products such as lipopolysaccharides (LPS), to intracellular pathogens or upon interaction with activated T cells. IL-12 was originally discovered because of its ability to induce interferon- γ production, cell proliferation, and cytotoxicity mediated by natural killer cells and T cells. It is now established that IL-12 also plays a key role in the development of Th1 responses, leading to IFN- γ and IL-2 production. These cytokines can in turn promote T-cell responses and macrophage activation. The p40 and p35 subunits by themselves have no IL-12 bioactivity, though the p40 homodimer has been shown to bind the IL-12 receptor and to be an antagonist of IL-12 p70. Free p40 is typically secreted in vast excess of IL-12 p70 by cells co-expressing both the p35 and p40 subunits. The p40 subunit of IL-12 has been shown to have extensive amino acid sequence homology to the extracellular domain of the IL-6 receptor, while the p35 subunit shows some homology to IL-6 and G-CSF.

Applications Reported

The C8.3 antibody has been reported for use in ELISA.

Applications Tested

The IL-12/IL-23 p40 monomer ELISA using clones C8.3 and C8.6 preferentially measures p40 monomer, exhibiting less than 1.0% cross reactivity with IL-12 (p35p40) and IL-23 (p19p40).

For this assay, the (p40 monomer-specific) purified C8.3 antibody (14-7127) is used as the capture antibody in combination with the biotinylated C8.6 antibody (13-7129) for detection and recombinant human IL-12/IL-23 p40 (39-8128) as the standard. A standard curve consisting of doubling dilutions of the recombinant standard over the range of 10,000 pg/ml - 80.0 pg/ml should be included in each ELISA plate. A suitable range of concentrations of this antibody for ELISA capture is 1-4 μ g/ml.

References

D'Andrea, A., et al. 1992. Production of natural killer cell stimulatory factor by peripheral blood mononuclear cells. *J. Exp. Med.* 176: 1387-1398.

D'Andrea, A., et al. 1993. Interleukin 10 inhibits human lymphocyte interferon gamma production by suppressing natural killer cell stimulatory factor synthesis in accessory cells. *J. Exp. Med.* 178: 1041-1048.

Chen, L., et al. 1997. Eradication of murine bladder carcinoma by intratumor injection of a bicistronic adenoviral vector carrying cDNAs for the IL-12 heterodimer and its inhibition by the IL-12 p40 subunit homodimer. *J. Immunol.* 159: 351-359.

Ling, P., et al. 1995. Human IL-12 p40 homodimer binds to the IL-12 receptor but does not mediate biologic activity. *J. Immunol.* 154: 116-127.

Russell, T., et al. 2003. IL-12 p40 homodimer-dependent macrophage chemotaxis and respiratory viral inflammation are mediated through IL-12 receptor beta1. *J. Immunol.* 171: 6866-6874.

Related Products

00-4202 ELISA Diluent Solution (5X)

00-4203 Super AquaBlue ELISA Substrate

14-4714 Mouse IgG1 K Isotype Control Purified

14-8129 Human IL-12 p70 Recombinant Protein

18-4100 Avidin HRP

44-2404 Nunc MaxiSorp® flat-bottom 96 well plate

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