

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human IL-12/IL-23 p40 subunit in direct ELISAs and Western blots. Recognizes IL-12 and IL-23 heterodimers as well as p40 homodimers. Shows 100% cross-reactivity with porcine IL-12/IL-23 p40 and no cross-reactivity with mouse IL-12/IL-23 p40.
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 169516
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human IL-23 p19/p40 heterodimer Ile23-Ser328 Accession # P29460
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	1 µg/mL	Recombinant Human IL-12/IL-23 p40 Monomer (Catalog # 309-IL)

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Interleukin 12, also known as natural killer cell stimulatory factor (NKSF) or cytotoxic lymphocyte maturation factor (CLMF), is a pleiotropic cytokine originally identified in the medium of activated human B lymphoblastoid cell lines. IL-12 is produced by macrophages and B lymphocytes and has multiple effects on T-cells and NK cells, including stimulation of cytotoxic activity, proliferation, and promotion of Th1 development as well as IFN-γ and TNF production. IL-12 is a disulfide-linked, 70 kDa (p70) heterodimeric glycoprotein composed of a 40 kDa (p40) subunit and a 35 kDa (p35) subunit. The p40 and p35 subunits by themselves have no IL-12 activity, the p40 dimer has been shown to bind the IL-12 receptor and to be an IL-12 antagonist. Free p35 has not been detected in supernatant solutions of cultured cells expressing only p35 or both p35 and p40 mRNAs. In contrast, p40 is secreted in excess of IL-12 in cells expressing both p35 and p40 mRNAs. The p40 subunit of IL-12 has been shown to have extensive amino acid sequence homology to the extracellular domain of the human IL-6 receptor while the p35 subunit shows distant but significant sequence similarity to IL-6, G-CSF, and chicken MGF. These observations have led to the suggestion that IL-12 might have evolved from a cytokine/soluble receptor complex. Human and mouse IL-12 share 70% and 60% amino acid sequence homology in their p40 and p35 subunits, respectively. IL-12 apparently shows species specificity with human IL-12 reportedly showing minimal activity in the murine system.