

## Recombinant Mouse IL-12/IL-23 (p40) (ELISA Std.)

<b>Catalog# / Size</b>	576909 / 4 pack
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	Interleukin-12, Natural killer cell stimulatory factor (NKSF), T-cell stimulating factor (TSF)
<b>Description</b>	<p>Bioactive IL-12 is a potent regulator of cell-mediated immune responses and key mediator of Th1 cell development. IL-12 is secreted by activated B lymphocytes, dendritic cells and macrophages as a 70 kD heterodimeric glycoprotein comprised of disulfide-bonded 35 kD and 40 kD subunits. The p40 is also a subunit of bioactive IL-23 when it is associated with IL-23 p19 subunit. The disulfide-linked p40 homodimer can bind to IL-12 receptors and antagonize the activities of bioactive IL-12. Recombinant mouse IL-12 p40 homodimer is a 96 kD protein containing two 313 amino acid subunits.</p> <p><u>Cytokine detection</u> IL-12, IL-23 and IL-35 share common subunits, utilizing combinations of p40, p19 and p35 proteins. Caution must be used when selecting antibodies and assays when specific identification, measurement, as well as activation state discrimination, is required.</p> <ol style="list-style-type: none"> <li>1. Active IL-12 consists of two subunits: p40 + p35.</li> <li>2. p40 can also exist as a monomer (IL-12 p40) or a homodimer (IL-12 p80).</li> <li>3. Besides contributing to IL-12, p40 is also found in IL-23, a heterodimer of p40 and p19.</li> <li>4. Similarly, p35 not only contributes to IL-12, but is also found in the heterodimer IL-35 (p35 and EB13).</li> </ol> <p>Note that assays using antibodies specific for the p40 subunit will be unable to discriminate between the active IL-12, monomeric p40, dimeric p40, and IL-23; likewise, assays using p35 detection alone will pick up both IL-12 (heterodimer) and IL-35.</p>

### Product Details

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<b>Source</b>	Sf21 insect cells, p40 homodimer
<b>Molecular Mass</b>	96
<b>Purity</b>	Prior to the addition of the protein stabilizer FBS, the recombinant mouse IL-12 p40 was > 95% pure, as determined by SDS-PAGE and HPLC analyses.
<b>Formulation</b>	Lyophilized in sterile-filtered PBS, pH 7.2, containing 1% BSA, 0.09% sodium azide, and protease inhibitors.
<b>Endotoxin Level</b>	The endotoxin level is less than 0.01 ng per µg cytokine protein (< 1EU/µg).
<b>Concentration</b>	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our <a href="#">Concentration and Expiration Lookup</a> or <a href="#">Certificate of Analysis</a> online tools.)
<b>Storage &amp; Handling</b>	Upon receipt, store unopened vials between 2°C and 8°C immediately and use within 12 months from date of receipt. Prior to use, reconstitute the lyophilized powder with 0.2 ml of PBS containing a carrier protein (e.g., 1% BSA, protease free), pH7.4. Re-cap vial, vortex. Allow the reconstituted standard to sit at room temperature for 15 minutes, vortex again to mix completely. The reconstituted standard stock solution can be aliquoted into polypropylene vials and stored at -70°C for up to one month. Do not re-use diluted standards. Use a manual defrost freezer and avoid repeated freeze thaw cycles.
<b>Application</b>	<a href="#">ELISA</a>
<b>Recommended Usage</b>	Each lot of this protein is quality control tested by <a href="#">ELISA assay</a> . For use as an ELISA standard, a standard curve comprised of doubling dilutions from 250 pg/ml to 2 pg/ml is suggested. It is recommended that the reagent be titrated for optimal performance for each application.
<b>Application Notes</b>	This IL-12/IL-23 p40 protein is useful as a standard for a mouse IL-12/IL-23 p40 sandwich ELISA, using unlabeled C15.6 antibody (Cat. No. 505202) for capture and biotinylated C17.8 antibody (Cat. No. 505302 ) for detection.

## Antigen Details

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<b>Structure</b>	Homodimer of p40 (Mammalian), 80 kD
<b>Bioactivity</b>	Weak antagonist of IL-12 p70
<b>Cell Sources</b>	Dendritic cells, B cells, T cells
<b>Cell Targets</b>	T cells, NK cells, PBL
<b>Receptors</b>	IL-12R $\beta$ 1 binds p40; dimeric with IL-12R $\beta$ 2 binds p35 (CD212)
<b>Reconstitution</b>	After thawing, quick spin vial. Make working aliquots for storage at -20° C to minimize repeated freeze/thaw cycles. Any further dilution of the cytokine should be done using a buffered diluent containing a protein carrier (e.g., 1% BSA or 10% FBS).
<b>Biology Area</b>	Stem Cells, Immunology, Innate Immunity
<b>Molecular Family</b>	Cytokines/Chemokines
<b>Antigen References</b>	<ol style="list-style-type: none"><li>1. Fitzgerald K, <i>et al.</i> (eds) 2001. The Cytokine Facts Book. Academic Press San Diego.</li><li>2. Quesniaux V. 1992. <i>Research Immun.</i> 143:385.</li><li>3. Trinchieri G, <i>et al.</i> 1992 <i>Prog Growth Factor Res.</i> 4:355.</li><li>4. Trinchieri G, <i>et al.</i> 1993 <i>Immunol Today.</i> 14:335.</li></ol>
<b>Regulation</b>	Downregulated by IL-10; homodimeric p40 antagonistic to functional p70 heterodimer; p40 monomer has no function; p40 subunit in common with IL-23
<b>Gene ID</b>	<a href="#">16160</a>

## Related Protocols

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[Sandwich ELISA Protocol](#)

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