Recombinant Human IL-23
Catalog Number: 1290-IL

DESCRIPTION
Source
Spodoptera frugiperda, Sf 21 (baculovirus)-derived

<table>
<thead>
<tr>
<th>N-terminal Sequence Analysis</th>
<th>Predicted Molecular Mass</th>
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<tbody>
<tr>
<td>Ile23 (IL-23 single chain &amp; p40) &amp; Ala21 (p19)</td>
<td>55.0 kDa (IL-23 single chain); 36.5 kDa (p40) &amp; 18.5 kDa (p19)</td>
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SPECIFICATIONS
SDS-PAGE
65 kDa, 43-45 kDa and 20 kDa, reducing conditions

Activity
The ED_{50} for this effect is 0.05-0.3 ng/mL.

Endotoxin Level
<1.0 EU per 1 μg of the protein by the LAL method.

Purity
>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Formulation
Lyophilized from a 0.2 μm filtered solution in MES, NaCl and EDTA with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE
Reconstitution
Reconstitute at 10 μg/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.

Shipping
The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage
Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND
Interleukin 23 (IL-23) is a heterodimeric cytokine composed of two disulfide-linked subunits, a p19 subunit that is unique to IL-23, and a p40 subunit that is shared with IL-12 (1-5). The p19 subunit has homology to the p35 subunit of IL-12, as well as to other single chain cytokines such as IL-6 and IL-11. The p40 subunit is homologous to the extracellular domains of the hematopoietic cytokine receptors. Human p19 cDNA encodes a 189 amino acid residue (aa) precursor protein with a putative 19 aa signal peptide and 170 aa mature protein. Human and mouse p19 share 70% aa sequence identity. Although p19 is expressed by activated macrophages, dendritic cells, T cells, and endothelial cells, only activated macrophages and dendritic cells express p40 concurrently to produce IL-23. The functional IL-23 receptor complex consists of two receptor subunits, the IL-12 receptor beta 1 subunit (IL-12 Rβ1) and the IL-23-specific receptor subunit (IL-23 R). IL-23 has biological activities that are similar to, but distinct from IL-12. Both IL-12 and IL-23 induce proliferation and IFN-γ production by human T cells. While IL-12 acts on both naïve and memory human T cells, the effects of IL-23 is restricted to memory T cells. In mouse, IL-23 but not IL-12, has also been shown to induce memory T cells to secrete IL-17, a potent proinflammatory cytokine. IL-12 and IL-23 can induce IL-12 production from mouse splenic DC of both the CD8α and CD8α+ subtypes, however only IL-23 can act directly on CD8α DC to mediate immunogenic presentation of poorly immunogenic tumor/self peptide.

References: