

Recombinant Mouse IL-23, Tag Free

Information

Accession #	P43432 (p40) & Q9EQ14 (p19)
Alternate Names	IL-23 p19/IL-12 p40; IL23; IL-23; IL-23A; IL-23-A; IL-23p19; IL-23p19/IL-12p40; IL23P19P19
Source	Human embryonic kidney cell, HEK293-derived mouse IL-23 protein
Protein sequence	p40 (Met1-Ser335) & p19 (Val22-Ala196)
M.Wt	57.9 kDa
Appearance	Solution protein
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 3 years from date of receipt, -20 to -70°C as supplied.
Concentration	0.2 mg/mL
Formulation	Dissolved in sterile PBS buffer.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. This solution can be diluted into other aqueous buffers.
Biological Activity	The EC ₅₀ for this effect is 0.005-0.25 ng/mL. Measured by its ability to induce IL-17 secretion by mouse splenocytes.
Shipping Condition	Shipping with dry ice.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Quality Control

Purity	> 95%, determined by SDS-PAGE.
Endotoxin	<0.010 EU per 1 ug of the protein by the LAL method.

Description

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. Mouse p19 cDNA encodes a 196 amino acid residue (aa) precursor protein with a putative 19 aa signal peptide and 177 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 R beta 1) 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-gamma production by human T cells. While IL-12 acts on both naive 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 CD8⁻ and CD8⁺ subtypes, however only IL-23 can act directly on CD8⁺ DC to mediate immunogenic presentation of poorly immunogenic tumor/self peptide.

■ Reference

- [1]. Oppmann, B. et al. (2000) Immunity 13:715.
- [2]. Lankford, C.S. and D.M. Frucht (2003) J. Leukoc. Biol. 73:49.
- [3]. Parham, C. et al. (2002) J. Immunol. 168:5699.
- [4]. Belladonna, M.L. et al. (2002) J. Immunol. 168:5448.
- [5]. Aggarwal, S. et al. (2003) J. Biol. Chem. 278:1910