

General Information

Synonyms	IL-23 p19/IL-12 p40; IL23; IL-23; IL-23A; IL-23-A; IL-23p19; IL-23p19/IL-12p40; IL23P19P19
Accession #	P43432 (p40) & Q9EQ14 (p19)
Source	Human embryonic kidney cell, HEK293-derived mouse IL-23 protein
	p40 (Met1-Ser335) & p19 (Val22-Ala196)
Predicted Molecular weight	57.9 kDa

Components and Storage

Formulation	Solution protein.
	Dissolved in sterile PBS buffer.
	This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening.

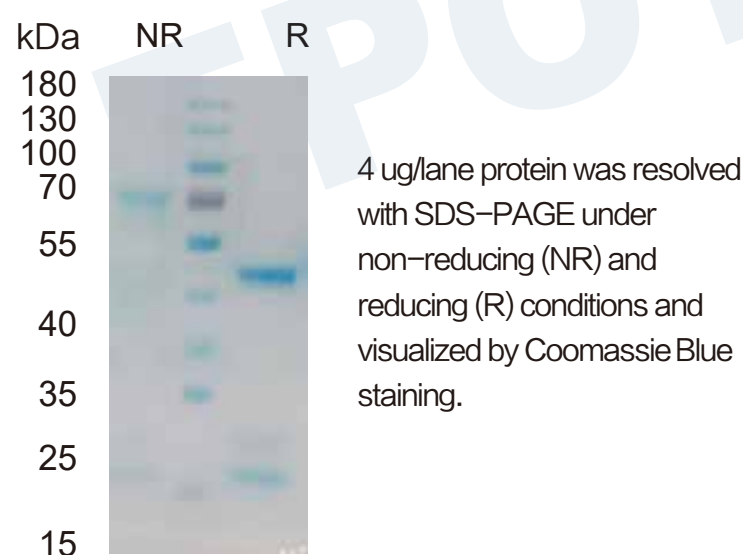
Storage and Stability	Avoid repeated freeze-thaw cycles.
	It is recommended that the protein be aliquoted for optimal storage.
	12 months from date of receipt, -20 to -70 ° C as supplied.

Shipping	Shipping with dry ice
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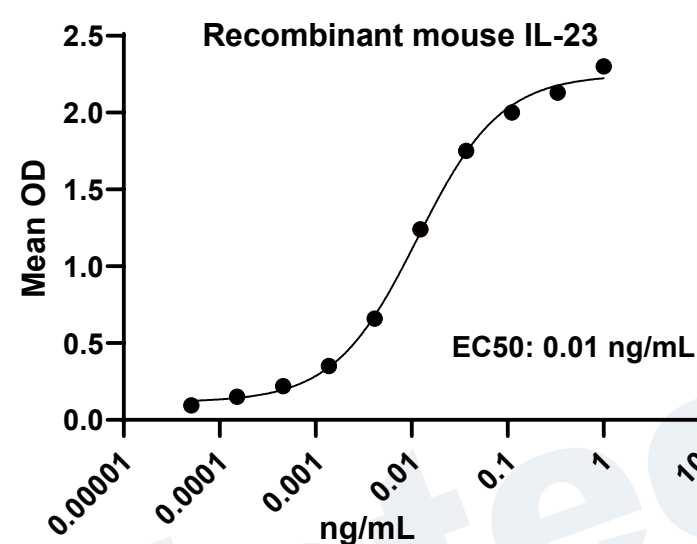
Quality

Purity	> 95%, determined by SDS-PAGE
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method
Activity	Measured by its ability to induce IL-17 secretion by mouse splenocytes.
	The EC50 for this effect is 0.005-0.25 ng/mL.

SDS-PAGE



Bioactivity



Recombinant mouse IL-23 (Catalog # MF-1023) stimulates cell proliferation of the mouse splenocytes.

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. 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.
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