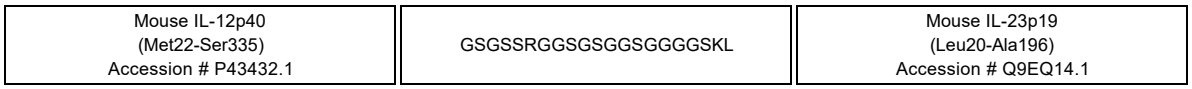
Recombinant Mouse IL-23 (HEK293-expressed)

Catalog Number: 11269-ML

DESCRIPTION

Source

Human embryonic kidney cell, HEK293-derived mouse IL-23 protein



N-terminal Sequence Analysis	Met22
Predicted Molecular Mass	57 kDa

SPECIFICATIONS

SDS-PAGE	60-75 kDa, under reducing conditions.
Activity	Measured by its ability to induce IL-17 secretion by mouse splenocytes. Aggarwal, S. *et al.* (2003) J. Biol. Chem. 278:1910. The ED_{50} for this effect is 0.050-0.500 ng/mL.
Endotoxin Level	<0.10 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 PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100-500 µg/mL in PBS.
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.

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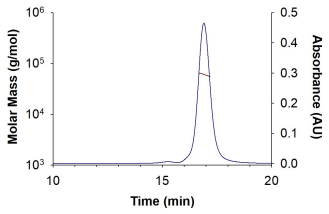
DATA

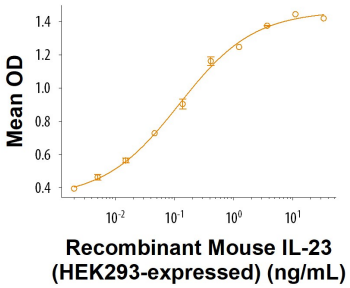
SEC-MALS



SEC-MALS Data	Result
Retention Time	16.7 - 17.2 min
MW - Predicted (Monomer)	57.0 kDa
MW - MALS	60.3 kDa
Polydispersity	1.002
System Suitability: BSA Monomer 66.4 ± 3.32 kDa	Pass

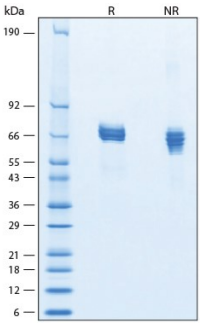
Recombinant Mouse IL-23 (HEK293-expressed) Protein SEC-MALS. Recombinant Mouse IL-23 (Catalog # 11269-ML) has a molecular weight (MW) of 60.3 kDa as analyzed by SEC-MALS, suggesting that this protein is a monomer. MW may differ from predicted MW due to post-translational modifications (PTMs) present (i.e. Glycosylation).

Bioactivity



Recombinant Mouse IL-23 (HEK293-expressed) Protein Bioactivity. Measured by its ability to induce IL-17 secretion by mouse splenocytes. Aggarwal, S. *et al*. (2003) J. Biol. Chem. **278**:1910. The ED_{50} for this effect is 0.050-0.500 ng/mL.

SDS-PAGE



Recombinant Mouse IL-23 (HEK293-expressed) Protein SDS-PAGE. 2 µg/lane of Recombinant Mouse IL-23 (HEK293-expressed) Protein (Catalog # 11269-ML) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 60-75 kDa.

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 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 Tnbsp;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 secret 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.

References:

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.

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