Revision 1

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#5224

Mouse Interleukin-22 (mIL-22)

Cell Signaling TECHNOLOGY®

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MW (kDa):	UniProt ID:	Entrez-Gene Id:
31	#Q9JJY9	50929

Background

IL-22, a member of the IL-10 family (1,2), is expressed by Th17 CD4+ T cells, activated T cells, Th1 cells and NK cells (3). Expression of IL-22 in combination with a select group of cytokines defines a subset of Th cells(4). IL-22 induces proinflammatory responses, drives production of antimicrobial peptides, and is involved in tissue-repair and wound-healing responses (1). The IL-22 receptor is a heterodimer of IL-22R1 and IL-10R2 (5). Expression of IL-22R is restricted to tissue-resident cells, particularly those of epithelial origin, whereas the IL-10R2 chain is expressed in many more cell types. IL-22 induces phosphorylation of Jak1 and Tyk2, leading to activation of Stat3 and, to a lesser extent, Stat1 and Stat5 (1). IL-22 responses can involve activation of the MEK-ERK-RSK, JNK-SAPK, and p38 pathways (1). Elevated levels of IL-22 have been associated with Crohn's disease and rheumatoid arthritis. IL-22 plays an essential role in host response to the pulmonary pathogen *Klebsiella pneumoniae* (6).

Endotoxin

Less than 0.01 ng endotoxin/1µg mIL-22.

Purity

>98% as determined by SDS-PAGE of 6 µg reduced (+) and non-reduced (-) recombinant mIL-22. All lots are greater than 98% pure.

Source / Purification

Recombinant mouse IL-22 (mIL-22) Leu34-Val179 (Accession #NP_058667) was expressed in human 293 cells at Cell Signaling Technology.

Bioactivity

The bioactivity of recombinant mIL-22 was determined by its ability to induce IL-10 production by COLO 205 cells. The ED_{50} of each lot is between 0.2-0.8 ng/ml.

Background References

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2. Dumoutier, L. et al. (2000) *Proc Natl Acad Sci U S A* 97, 10144-9.
3. Takatori, H. et al. (2008) *Mod Rheumatol* 18, 533-41.
4. Eyerich, S. et al. (2009) *J Clin Invest* 119, 3573-85.
5. Nagalakshmi, M.L. et al. (2004) *Int Immunopharmacol* 4, 679-91.
6. Aujla, S.J. et al. (2008) *Nat Med* 14, 275-81.

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