

Recombinant Mouse Interleukin-1 Alpha

Mouse, Recombinant (Il1a)

Expressed in *E. coli*

Cat. No. CRP0831

Lot. No. (See product label)

PRODUCT INFORMATION

Description: IL-1 α is distinct from the other agonist member of the IL-1 family, IL-1 β . Although IL-1 α triggers the same IL-1 receptor and although many of the biological effects of IL-1 α are similar to those of IL-1 β , in humans IL-1 α is predominantly an intracellular molecule. In fact, there is evidence that IL-1 α has both intracellular functions as a precursor molecule due to a nuclear localization sequence. IL-1 α as an unprocessed precursor is biologically as active as the processed form. IL-1 α is also found constitutively in epithelial cells, whereas constitutive expression of IL-1 β is rare. In many ways, IL-1 α appears to be closer to the fibroblast growth factor family than the secreted IL-1 β form. Therapeutic strategies for blocking IL-1 β predominate over those for blocking IL-1 α . Many humans have circulating neutralizing antibodies to IL-1 α but not IL-1 β .

Amino-Acid Sequence: 156aa (The sequence of the first five N-terminal amino acids was determined and was found to be Ser-Ala-Pro-Tyr-Thr.), non-glycosylated.

M. W. : 18,000 Da

Recombinant: Expressed in *E. coli*

Purity: >98% as determined by RP-HPLC, FPLC and SDS-PAGE.

Formulation: Mouse IL-1 α was lyophilized after extensive dialysis against PBS.

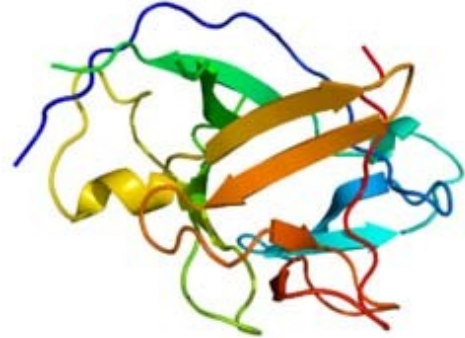
Specific Activity: The ED50 as determined by the dose-dependant stimulation of mouse D10S cells was found to be less than 0.01 ng/ml, corresponding to a Specific Activity of 1.0×10^8 IU/mg.

Endotoxin: Less than 0.1ng/ μ g (1 IEU/ μ g) of IL-1 α .

Reconstitution: It is recommended to reconstitute the lyophilized rmlL-1 α in sterile 18M Ω -cm H₂O not less than 100 μ g/ml, which can then be further diluted to other aqueous solutions.

Storage: Lyophilized rmlL-1 α although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rmlL-1 α should be stored at 4°C between 2-7 days and for future use below -18°C. For long-term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Aliquot to avoid repeated freeze-thaw cycles.

FOR RESEARCH USE ONLY



Crystal structure of IL-1a ([PDB 2ILA](#)).

GENE INFORMATION

Gene Name: [IL1A](#)

Gene Alias: RP23-160G19.8; Il-1a; Hematopoietin-1; Lymphocyte-activating factor; LAF; Endogenous Pyrogen; EP; Leukocyte Endogenous Mediator; LEM; Mononuclear Cell Factor; MCF; IL-1 alpha; IL1; IL-1A; IL1F1; Interleukin-1 alpha; pro-interleukin-1-alpha; Interleukin-1 alpha precursor; preinterleukin 1 alpha; Il1a

mRNA Refseq: [NM_010554.4](#)

Protein Refseq: [NP_034684.2](#)

MIM: [147760](#)

GeneID: [16175](#)

UniProt ID: P01582

Chromosome Location: 2 73.0 cM

Pathway: Apoptosis; Cytokine-cytokine receptor interaction; Hematopoietic cell lineage; MAPK signaling pathway; Type I diabetes mellitus

Function: cytokine activity; growth factor activity; interleukin-1 receptor binding

REFERENCES

- 1.Huising MO, Stet RJ, et al. The molecular evolution of the interleukin-1 family of cytokines; IL-18 in teleost fish. *Dev. Comp. Immunol.* 2004; 28 (5): 395–413
- 2.Sims JE, Nicklin MJ, et al. A new nomenclature for IL-1-family genes. *Trends Immunol.* 2001; 22 (10): 536–537
- 3.Dunn E, Sims JE, et al. Annotating genes with potential roles in the immune system: six new members of the IL-1 family. *Trends Immunol.* 2001; 22 (10): 533–536

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