

Product No. I-4267
Interleukin-1 α (IL-1 α)
Mouse, Recombinant
Expressed in *E. coli*

Product Description

Interleukin-1 (IL-1), originally known as Lymphocyte Activating Factor (LAF), activates T cells and lymphocytes, which then proliferate and secrete Interleukin-2 (IL-2).¹ IL-1 is primarily released from stimulated macrophages and monocytes, but is also released from several other cell types,² and is thought to play a key role in inflammatory and immune responses.³ Other synonyms for IL-1 include: endogenous pyrogen (EP), mitogenic protein (MP), Helper Peak-1 (HP-1), T Cell Replacing Factor III (TRF III or TRF_{III}), B Cell Activating Factor (BAF) and B Cell Differentiation Factor (BDF).⁴ The two closely related agents, Interleukin-1 α (IL-1 α) and Interleukin-1 β (IL-1 β) share a 62% homology in their amino acid sequence and elicit nearly identical biological responses. IL-1 α and IL-1 β both have an approximate molecular weight of 17 kD with some heterogeneity in the amount of glycosylation.

Performance Characteristics

IL-1 α is assayed using the mouse T cell line EL4-NOB1 which produces IL-2 in response to IL-1. Because the IL-2 produced is proportional to the IL-1 concentrations used, IL-2 is subsequently assayed by thymidine uptake using an IL-2 dependent T cell line such as CTLL-2.⁵ One unit equals the amount of IL-1 α required to induce half maximal incorporation of ³H-thymidine. The EC₅₀ is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell based bioassay.

Product Information

Expressed in *E. coli*
Molecular Weight: 17 kD
Purity: \geq 98% by SDS-PAGE
Activity/vial: 2×10^6 - 1.5×10^7 U/vial
Package Size: 5 μ g/vial
Volume: 0.2 ml/vial
Diluent: Phosphate Buffered Saline
Carrier protein: 0.1% BSA
Bioburden: <10 CFU/ml
Endotoxin: <0.2 ng/ μ g IL-1 α

Dilution and Use

Recombinant, mouse IL-1 α is supplied as a 0.2 μ m-filtered frozen solution in PBS containing 0.1% BSA. Each vial may be diluted using buffered solution containing 1 mg/ml BSA or tissue culture media.

Storage

Store unopened vial at -70°C . Aliquots of IL-1 α may be stored at -20°C or -70°C . Prolonged storage of product or repeated freezing and thawing is **not** recommended.

References

1. Gery, I., et al., *J. Exp. Med.*, **136**, 128 (1972).
2. Oppenheim, J., et al., *Immunol. Today*, **7**, 45 (1986).
3. Durum, S., et al., *Ann. Rev. Immunol.*, **3**, 263 (1985).
4. Aarden, L., et al., *J. Immunol.*, **123**, 2928 (1979).
5. Gearing, A.J.H., et al., *J. Immunol. Meth.*, **99**, 7 (1987).