

**INTERLEUKIN-1-ALPHA (IL-1A)  
HUMAN, RECOMBINANT  
Expressed in *E. coli***Product No. **I3894****Description**

Interleukin-1, originally known as Lymphocyte Activating Factor (LAF), activates T cells and lymphocytes, which then proliferate and secrete Interleukin-2 (IL-2).<sup>1</sup> IL-1 is primarily released from stimulated macrophages and monocytes, but is also released from several other cell types,<sup>2</sup> and is thought to play a key role in inflammatory and immune responses.<sup>3</sup> 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<sub>H</sub>), B Cell Activating Factor (BAF), and B Cell Differentiation Factor (BDF).<sup>4</sup> The two closely related agents, Interleukin-1-Alpha (IL-1 $\alpha$ ) and Interleukin-1-Beta (IL-1 $\beta$ ) share a 62% homology in their amino acid sequences and elicit nearly identical biological responses. IL-1 $\alpha$  and IL-1 $\beta$  both have an approximate molecular weight of 17 kD with some heterogeneity in the amount of glycosylation.

**Performance Characteristics**

IL-1 $\alpha$  is assayed using the murine T cell line D10.G4.1.<sup>5</sup> The EC<sub>50</sub> 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: 17.5 kD  
Purity:  $\geq$ 97% by SDS-PAGE  
EC<sub>50</sub>: 5 - 20 pg/ml  
Package size: 2  $\mu$ g/vial  
Lyophilization Buffer: Lyophilized from 0.2  $\mu$ m-filtered PBS, pH 7.4.  
Carrier Protein: 100  $\mu$ g human serum albumin (HSA)  
Sterility: 0.2  $\mu$ m-filtered, aseptic fill  
Endotoxin:  $\leq$  0.1 ng/ $\mu$ g IL-1 $\alpha$

**Reconstitution and Use**

Reconstitute contents of one vial with sterile-filtered buffered saline containing 0.1 - 1.0% BSA or HSA to prepare a working solution containing 1  $\mu$ g/ml of the cytokine. If aseptic technique is used, additional filtration should not be necessary and should be avoided due to possible adsorption onto the filter membrane.

**Storage**

Prior to reconstitution, store at -20°C. After reconstitution, store at 2-8°C for a maximum of 3 months. For extended storage, freeze in working aliquots at -70°C or -20°C. 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. Symons, J., et al., Lymphokines and Interferons, A Practical Approach, Clemens, M., et al., eds., IRL Press, p. 272 (1987).

**BIOHAZARD:** Handle as if capable of transmitting infectious agents. Refer to MSDS.

Source material tested and found negative for antibody to HIV and HBsAG.

7/98

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications.

Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply.

Please see reverse side of the invoice or packing slip.