3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

Interleukin-1β (IL-1β)
Rat, Recombinant
Expressed in *E. coli*

Product Number **I 2393**

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.[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_H), B cell Activating Factor (BAF) and B Cell Differentiation Factor (BDF).[4] The two closely related agents, Interleukin-1α (IL-1α) and Interleukin-1β (IL-1β) bind to the same cell surface receptor, elicit nearly identical biological responses and yet share 25% homology in their amino acid sequence. Recombinant rat IL-1β is a 17.3 kDa protein containing 153 amino acid residues.

Reagent

Lyophilized from a 0.2 μm-filtered buffered solution.

Storage/Stability

The lyophilized protein is best stored at –20 °C. It is stable for up to a few weeks at room temperature. Reconstituted product should be stored in working aliquots at –20 °C. Repeated freezing and thawing is not recommended. Do not store in frost-free freezer.

Reconstitution

Reconstitute the contents of the vial with water to a concentration of 0.1-1.0 mg/ml. This solution can then be diluted into other aqueous buffers and stored at 2-8 °C for up to one week. For extended storage, freeze in working aliquots at –20 °C. Repeated freezing and thawing is not recommended.

Product Profile

The biological activity of recombinant rat IL-1β was measured in a cell proliferation assay using murine D10S cells.[5] The ED_{50} is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell based bioassay.

Purity: ≥ 98% as determined by SDS-PAGE and HPLC.

Endotoxin: < 0.1 ng/μg cytokine.

References

1. Gery, I., et al., J. Exp. Med., **136**, 128 (1972).
2. Oppenheim, J. J., et al., Immunol. Today, **7**, 45 (1986).
3. Durum, S. K., et al., Annu. 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, Oxford (1987).

KAA 12/03