

**DESCRIPTION**

**Source** Mouse myeloma cell line, NS0-derived human IL-1 RI protein  
Asp21-Thr332  
Accession # P14778

**N-terminal Sequence Analysis** Asp21

**Predicted Molecular Mass** 36 kDa

**SPECIFICATIONS**

**SDS-PAGE** 55 kDa, reducing conditions

**Activity** Measured by its ability to inhibit IL-1 $\beta$ -dependent proliferation in D10.G4.1 mouse helper T cells. Symons, J.A. *et al.* (1987) in *Lymphokines and Interferons, a Practical Approach*. Clemens, M.J. *et al.* (eds): IRL Press. 272.  
Approximately 0.2-1.0  $\mu$ g/mL of IL-1 RI will inhibit 50% of the biological response due to 30  $\mu$ g/mL of recombinant human IL-1 $\beta$ .

**Endotoxin Level** <0.10 EU per 1  $\mu$ g of the protein by the LAL method.

**Purity** >97%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

**Formulation** Lyophilized from a 0.2  $\mu$ m filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

**Reconstitution** Reconstitute at 100  $\mu$ g/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.

**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

**BACKGROUND**

Two distinct types of receptors that bind the pleiotropic cytokines IL-1 $\alpha$  and IL-1 $\beta$  have been described. The IL-1 receptor Type I is an 80 kDa transmembrane protein that is expressed predominantly by T cells, fibroblasts, and endothelial cells. IL-1 receptor Type II is a 68 kDa transmembrane protein found on B lymphocytes, neutrophils, monocytes, large granular leukocytes and endothelial cells. Both receptors are members of the immunoglobulin superfamily and show approximately 28% sequence identity in their extracellular domains. The two receptor types do not heterodimerize into a receptor complex.

An IL-1 receptor accessory protein that can heterodimerize with the Type I receptor in the presence of IL-1 $\alpha$  or IL-1 $\beta$  but not IL-1 $\alpha$ , was identified (1). This Type I receptor complex appears to mediate all the known IL-1 biological responses. The receptor Type II has a short cytoplasmic domain and does not transduce IL-1 signals. In addition to the membrane-bound form of IL-1 RII, a naturally-occurring soluble form of IL-1 RII has been described. It has been suggested that the Type II receptor, either as the membrane-bound or as the soluble form, serves as a decoy for IL-1 and inhibits IL-1 action by blocking the binding of IL-1 to the signaling Type I receptor complex. Recombinant IL-1 soluble receptor Type I is a potent antagonist of IL-1 action.

**References:**

1. Greenfeder, S. *et al.* (1995) *J. Biol. Chem.* **270**:13757.