



## User Manual

**Interleukin-1 receptor antagonist (IL-1RA) (Human)**

**Cat. No. HEILP-01032**

**Description:**

Interleukin-1 receptor antagonist (IL-1ra) is a member of the IL-1 family. Endogenous IL-1ra is produced in numerous animal disease models as well as in human autoimmune and chronic inflammatory diseases. It binds to IL-1 receptors in competition with IL-1, but does not elicit intracellular response from this binding. Its role in counteracting the proinflammatory effects of IL-1 is being studied by numerous research groups. IL-4 and IL-13 have been shown to amplify the stimulatory effect of IL-1-beta on the production of soluble and intracellular forms of IL1-ra. The regulated expression of IL-1ra in various cell types has been shown to be influenced by cytokines. In synovial fibroblasts the synthesis of IL-1ra is markedly enhanced by IL-1, TNF-alpha, or PDGF.

**Source:**

*Escherichia coli*

**Unit:**

100 µg

**Reconstitution:**

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at < -20°C. Further dilutions should be made in appropriate buffered solutions.

**Formulation:**

Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4.

**Storage:**

This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles.

**Molecular Weight:**

Approximately 17.1 kDa, a single non-glycosylated polypeptide chain containing 152 amino acids.

**Endotoxin:**

Less than 1 EU/μg of IL-1RA as determined by LAL method.

**Usage:**

This material is offered by Cyagen Biosciences for research, laboratory or further evaluation purposes. FOR RESEARCH USE ONLY. NOT INTENDED FOR ANY ANIMAL OR HUMAN THERAP EUTIC OR DIAGNOSTIC USE.

**Biological Activity:**

The ED50 determined by inhibiting IL-1α-dependent proliferation of murine D10S cells is less than 0.5 ng/mL, corresponding to a specific activity of  $> 2.0 \times 10^6$  IU/mg in the presence of 50 pg/mL IL-1α.

**Physical Appearance:**

Sterile filtered white lyophilized (freeze-dried) powder.

**AA Sequence:**

RPSGRKSSKM QAFRIWDVNQ KTFYLRNNQL VAGYLQGPV NLEEKIDVVP  
IEPHALFLGI HGGKMCLSCV KSGDETRLQL EAVNITDLSE NRKQDKRFAF  
IRSDSGPTTS FESAACPGWF LCTAMEADQP VSLTNMPDEG VMVTKFYFQE DE

**Purity:**

> 96% by SDS-PAGE and HPLC analyses.

Material Safety Data Sheets (MSDSs) are available upon request.

The Certificate of Analysis (COA), which provides detailed quality control information for each product, is also available at the Cyagen website.

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