

# Recombinant Human IL-1RA Protein

Cat. No. 110103

## DESCRIPTION

|                            |                                                                                                                                           |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Expression system</b>   | <i>E. coli</i>                                                                                                                            |
| <b>Amino acid sequence</b> | Arg26-Glu177, Accession #P18510                                                                                                           |
| <b>Molecular mass</b>      | Recombinant Human IL-1RA Protein, a monomer containing 152 amino acid residues, has a predicted molecular mass of approximately 17.1 kDa. |

## SPECIFICATIONS

|                       |                                                                                                                                                                                                                                   |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Purity</b>         | > 98% by SDS-PAGE gel and HPLC analyses.                                                                                                                                                                                          |
| <b>Endotoxin</b>      | Less than 0.1 EU/μg of rHuIL-1RA as determined by LAL test.                                                                                                                                                                       |
| <b>Activity</b>       | The ED <sub>50</sub> as determined by inhibiting IL-1α-dependent proliferation of murine D10S cells is less than 40 ng/ml, corresponding to a specific activity of $> 2.5 \times 10^4$ U/mg in the presence of 50 pg/ml rHuIL-1α. |
| <b>Formulation</b>    | Lyophilized from a 0.22 μm filtered solution in PBS. See CoA for details.                                                                                                                                                         |
| <b>Reconstitution</b> | Always centrifuge tubes before opening. Do not mix by vortex or pipetting. Reconstitute in sterile distilled water to a concentration of 0.1-1.0 mg/mL. Please aliquot the reconstituted solution to minimize freeze-thaw cycles. |

## SHIPPING & STORAGE

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|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b> | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature listed below.                                                                                                                                                                                                                                                                                                                                                            |
| <b>Storage</b>  | <p><b>Please use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"><li>● Lyophilized protein should be stored at <math>\leq -20^\circ\text{C}</math>, stable for 12 months after receipt.</li><li>● Reconstituted protein solution can be stored at <math>2-8^\circ\text{C}</math> for 1 month.</li><li>● Aliquots of reconstituted samples are stable at <math>\leq -20^\circ\text{C}</math> for 3 months.</li></ul> |

## BACKGROUND

Interleukin-1 receptor antagonist (IL-1RA) is a member of the IL-1 family. IL1RA is secreted by various types of cells including immune cells, epithelial cells, and adipocytes, and is a natural inhibitor of the pro-inflammatory effect of IL1β. This protein inhibits the activities of interleukin 1, alpha (IL1A) and interleukin 1, beta (IL1B), and modulates a variety of interleukin 1 related immune and inflammatory responses. IL-4 and IL-13 have been shown to amplify the stimulatory effect of IL1-beta on the production of soluble and intracellular forms of IL1-RA. The regulated expression of IL1RA 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. The protein shows 26 % amino acid homology to IL1β and 19 % homology to IL1α.

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For research, laboratory or further evaluation purposes. NOT for Human Use.

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