



## Technical Data Sheet

### Recombinant Rat Interleukin-1 Receptor Antagonist Protein (rRtIL-1RA)

#### *Rat Interleukin-1 Receptor Antagonist Protein*

IL-1RA was initially called the IL-1 inhibitor which is encoded by the IL1RN gene and it is a member of the interleukin 1 cytokine family. IL-1RA is secreted by various types of cells including immune cells, epithelial cells, and adipocytes. IL-1RA has functions of inhibiting the activity of interleukin-1 by binding to receptor IL1R1 and preventing its association with the co-receptor IL1RAP for signaling. IL-1RA is also used in the treatment of rheumatoid arthritis, an autoimmune disease in which IL-1 plays a key role. The rat IL-1RA is a single non-glycosylated polypeptide chain containing 152 amino acids and it has been shown to block the inflammatory responses induced by IL-1 both in vitro and in vivo. Rat IL-1RA shares 89 % and 73 % a.a. sequence homology with murine and human IL-1RA.

Catalog Number:	RC252-12C
Source:	<i>Escherichia coli</i> .
Molecular Weight:	Approximately 17.4 kDa, a single non-glycosylated polypeptide chain containing 152 amino acids.
Quantity:	20µg/100µg/1000µg
AA Sequence:	HPAGKRPKM QAFRIWDTNQ KTFYLRNNQL IAGYLQGPNT KLEEKIDMVP IDFRNVFLGI HGGKLCCLSCV KSGDDTKLQL EEVNITDLNK NKEEDKRFTF IRSETGPTTS FESLACPGWF LCTTLEADHP VSLTNTPKPEP CTVTKFYFQE DQ
Purity:	> 96 % by SDS-PAGE and HPLC analyses.
Biological Activity:	Fully biologically active when compared to standard. The ED <sub>50</sub> as determined by inhibiting IL-1α-dependent proliferation of murine D10S cells is less than 150 ng/ml, corresponding to a specific activity of > 6.7 × 10 <sup>3</sup> IU/mg in the presence of 50 pg/ml rRtIL-1α.
Physical Appearance:	Sterile Filtered White lyophilized (freeze-dried) powder.
Formulation:	Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4.
Endotoxin:	Less than 1 EU/µg of rRtIL-36RA as determined by LAL method.
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



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dilutions should be made in appropriate buffered solutions.

**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.

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