

## Recombinant Rat Interleukin-1 Receptor Antagonist Protein

### Information

<b>Gene ID</b>	60582
<b>Accession #</b>	P25086
<b>Alternate Names</b>	IL-1RN, IRAP, IL1 Inhibitor
<b>Source</b>	Escherichia coli.
<b>M.Wt</b>	Approximately 17.4 kDa, a single non-glycosylated polypeptide chain containing 152 amino acids.
<b>AA Sequence</b>	HPAGKRPCCKM QAFRIWDTNQ KTFYLRNNQL IAGYLQGPNT KLEEKIDMVP IDFRNVFLGI HGGKLCCLSCV KSGDDTKLQL EEVNITDLNK NKEEDKRFTF IRSETGPTTS FESLACPGWF LCTTLEADHP VSLTNTPKPEP CTVTKFYFQE DQ
<b>Appearance</b>	Sterile Filtered White lyophilized (freeze-dried) powder.
<b>Stability &amp; Storage</b>	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
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4.
<b>Reconstitution</b>	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.
<b>Biological Activity</b>	Fully biologically active when compared to standard. The ED 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 IU/mg in the presence of 50 pg/ml rRtIL-1α.
<b>Shipping Condition</b>	Gel pack.
<b>Handling</b>	Centrifuge the vial prior to opening.
<b>Usage</b>	For Research Use Only! Not to be used in humans.

### Components and Storage

Components	100µg	500µg	
Recombinant Rat Interleukin-1 Receptor Antagonist Protein	100µg	500µg	

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- 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

## Quality Control

Purity	> 96 % by SDS-PAGE and HPLC analyses.
Endotoxin	Less than 1 EU/μg of rRtIL-1RA as determined by LAL method.

## Description

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-RA has functions of inhibiting the activity of interleukin-1 by binding to receptor IL1R1 and preventing its association with the coreceptor 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.

## Reference

1. Dinarello CA. 1994. FASEB J. 8:1314-25
2. Patterson D, Jones C, Hart I, et al. 1993. Genomics. 15:173-6
3. Steinkasserer A, Spurr NK, Cox S, et al. 1992. Genomics. 13:654-7
4. Perrier S, Darakhshan F, Hajduch E. 2006. FEBS Lett. 580:6289-94
5. Gabay C, Porter B, Fantuzzi G, et al. 1997. J Immunol. 159:5905-13.

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