

Recombinant Rat Interleukin-1 Receptor Antagonist Protein

#R00298

Size: 100 µg/500 µg

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.



Warning: This product is intended for scientific research only. It is not to be used for medical or diagnostic procedures in humans or animals, nor as a food, cosmetic, or household product.

Background

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.

AA Sequence

HPAGKRPCKMQAFRIWDTNQKTFYLRNNQLIAGYLQ

GPNTKLEEKIDMVPIDFRNVFLGIHGGKLCLSCVKSG
DDTKLQLEEVNITDLNKNKEEDKRFTFIRSETGPTTSF
ESLACPGWFLCTTLEADHPVSLTNTPKPCTVTKFYF
QEDQ

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.

Product Specification

Synonyms	IL-1RN, IRAP, IL1 Inhibitor
Accession	P25086
GeneID	60582
Species	Rat
Source	Escherichia coli.
Molecular Weight	Approximately 17.4 kDa, a single non-glycosylated polypeptide chain containing 152 amino acids.
Purity	> 96 % by SDS-PAGE and HPLC analyses.
Biological Activity	Fully biologically active when compared to standard. The ED ₅₀ 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 ³

	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-1RA as determined by LAL method.