

Recombinant Equine Interleukin-1 Receptor Antagonist Protein

Information

Gene ID	100034236
Accession #	O18999
Alternate Names	IL-1RN, IRAP
Source	Escherichia coli.
M.Wt	Approximately 17.4 kDa, a single non-glycosylated polypeptide chain containing 152 amino acids.
AA Sequence	HPLGKRPCCKM QAFRIWDVNQ KTFYMRNNQL VAGYLQESNT KLQEKIDVVP IEPDALFLGL HGRKLCLACV KSGDEIRFQL EAVNITDL SK NKEENKRFTF IRSNSGPTTS FESAACPGWF LCTAQEADRP VSLTNKPKES FMVTKFYLQE DQ
Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
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
Formulation	Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4.
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.
Biological Activity	Fully biologically active when compared to standard. The ED as determined by inhibiting IL-1α-dependent proliferation of murine D10S cells is less than 3.0 µg/ml, corresponding to a specific activity of > 333 IU/mg in the presence of 50 pg/ml rHuIL-1α.
Shipping Condition	Gel pack.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Components and Storage

Components	5µg	100µg	500µg
Recombinant Equine Interleukin-1 Receptor Antagonist Protein	5µg	100µg	500µg

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

Quality Control

Purity	> 95 % by SDS-PAGE and HPLC analyses.
Endotoxin	Less than 1 EU/μg of rEqIL-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. It 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 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 equus caballus 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. The protein shows 26 % amino acid homology to IL-1 β and 19 % homology to IL-1 α . It also shares 78 %~80 % a.a. sequence identity with murine, rat, porcine 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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