

Recombinant Rat IL-1Ra/IL-1F3/IL-1RN Protein

Catalog No.: RP01817 **Recombinant**

Sequence Information

Species	Gene ID	Swiss Prot
Rat	60582	P25086

Tags
NO-tag

Synonyms
IL-1ra;il1ra;il-1ra;IL1RA

Product Information

Source	Purification
<i>E. coli</i>	> 92% by SDS-PAGE.

Calculated MW	Observed MW
17.38 kDa	15-25 kDa

Endotoxin
< 1EU/μg

Formulation
Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4.

Reconstitution
Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

Contact

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Background

Interleukin-1 receptor antagonist (IL-1RA) also known as IL1RN is a member of the interleukin 1 cytokine family. 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. A polymorphism of this protein-encoding gene is reported to be associated with an increased risk of osteoporotic fractures and gastric cancer. IL-1RA/IL1RN may inhibit the activity of IL-1 by binding to its receptor and it has no IL-1 like activity. Genetic variation in IL-1RA/IL1RN is associated with susceptibility to microvascular complications of diabetes type 4 (MVCD4). These are pathological conditions that develop in numerous tissues and organs as a consequence of diabetes mellitus. They include diabetic retinopathy, diabetic nephropathy leading to end-stage renal disease, and diabetic neuropathy. Diabetic retinopathy remains the major cause of new-onset blindness among diabetic adults. It is characterized by vascular permeability and increased tissue ischemia and angiogenesis. Defects in IL-1RA/IL1RN are the cause of interleukin 1 receptor antagonist deficiency (DIRA) which is also known as deficiency of interleukin 1 receptor antagonist. Autoinflammatory diseases manifest inflammation without evidence of infection, high-titer autoantibodies, or autoreactive T-cells. DIRA is a rare, autosomal recessive, genetic autoinflammatory disease that results in sterile multifocal osteomyelitis, and pustulosis from birth.

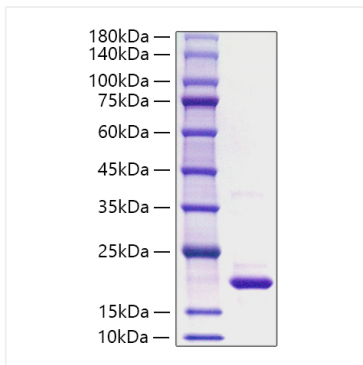
Basic Information

Description
Recombinant Rat IL-1Ra/IL-1F3/IL-1RN Protein is produced by *E. coli* expression system. The target protein is expressed with sequence (His27-Gln178) of rat IL-1Ra/IL-1F3/IL-1RN (Accession #NP_071530.1) fused with no additional amino acid.

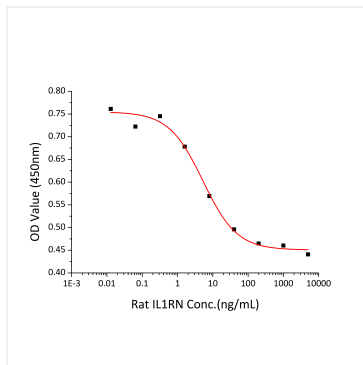
Bio-Activity
Measured by its ability to inhibit IL-1 alpha-dependent proliferation in D10.G4.1 mouse helper T cells. The ED₅₀ for this effect is 2.62-10.48 ng/mL in the presence of 50 pg/mL of rIL-1 alpha (Catalog: RP01736), corresponding to a specific activity of 9.54×10⁴~3.82×10⁵ units/mg.

Storage
Store at -20°C. Store the lyophilized protein at -20°C to -80 °C up to 1 year from the date of receipt. After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week. Avoid repeated freeze/thaw cycles.

Validation Data



Recombinant Rat IL-1Ra/IL-1F3/IL-1RN
Protein was determined by SDS-PAGE with
Coomassie Blue, showing a band at 15-25
kDa.



Recombinant Rat IL-1Ra/IL-1F3/IL-1RN inhibit
IL-1 alpha-dependent proliferation in
D10.G4.1 mouse helper T cells. The ED_{50} for
this effect is 2.62-10.48 ng/mL in the
presence of 50 pg/mL of rIL-1 alpha (Catalog:
RP01736), corresponding to a specific
activity of $9.54 \times 10^4 \sim 3.82 \times 10^5$ units/mg.