Human IL-1RA / IL1RN Protein

Catalog Number: 10123-HNAE

Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

DIRA; ICIL-1RA; IL-1ra; IL-1ra3; IL-1RN; IL1F3; IL1RA; IRAP; MVCD4

Protein Construction:

A DNA sequence encoding the mature form of human IL1RA isoform1 (NP_776214.1) (Arg 26-Glu 177) was expressed.

Source: Human

Expression Host: E. coli

QC Testing

Purity: ≥ 95 % as determined by SDS-PAGE

Bio Activity:

1. Measured by its binding ability in a functional ELISA. Immobilized human IL1RA at 10 μg/ml (100 μl/well) can bind human IL1R2-Fc (Cat:10111-H02H), The EC_{50} of human IL1R2-Fc (Cat:10111-H02H) is 0.04-0.1 μg/mL.
2. Measured by its binding ability in a functional ELISA. Immobilized human IL1RA at 10 μg/ml (100 μl/well) can bind human IL1R1-Fc (Cat:10126-H02H), The EC50 of human IL1R1-Fc (Cat:10126-H02H) is 0.08-0.2 μg/mL.
3. Measured by its ability to induce Interferon gamma secretion by human natural killer lymphoma NK-92 cells in the presence of 250pg/mL IL1a. The EC50 for this effect is typically 3-12 ng/mL.

Endotoxin:

Please contact us for more information.

Predicted N terminal: Met

Molecular Mass:

The recombinant human IL1RA consists of 153 amino acids and predicts a molecular mass of 17.3 kDa which is also estimated by SDS-PAGE.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Stability & Storage:
Samples are stable for twelve months from date of receipt at -20℃ to -80℃.

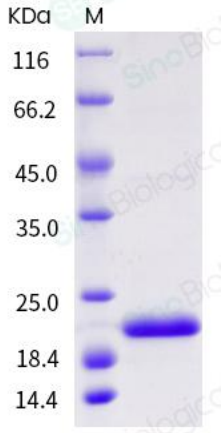
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

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 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.

References

1.Langdahl BL, et al. (2000) Osteoporotic fractures are associated with an 86-base pair repeat polymorphism in the interleukin-1--receptor antagonist gene but not with polymorphisms in the interleukin-1beta gene. J Bone Miner. 15 (3): 402-14.
2.El-Omar EM, et al. (2000) Interleukin-1 polymorphisms associated with increased risk of gastric cancer. Nature. 404 (6776): 398-402.
3.Steinkasserer A, et al. (1992) The human IL-1 receptor antagonist gene (IL1RN) maps to chromosome 2q14-q21, in the region of the IL-1 alpha and IL-1 beta loci. Genomics. 13 (3): 654-7.