

## IL-1RAP/IL-1RAcP Protein, Human, Recombinant (His)

### General Information

|                       |   |
|-----------------------|---|
| Synonyms:             | C3orf13;IL-1RAcP;interleukin 1 receptor accessory protein;IL1R3   |
| Protein Construction: | A DNA sequence encoding the human IL1R3 (NP_002173.1) extracellular domain (Met 1-Glu 359) was expressed, fused with the a C-terminal polyhistidine tag. Predicted N terminal: Ser 21 |
| Species:              | Human   |
| Expression Host:      | HEK293 Cells  |
| Accession:            | Q9NPH3-1  |
| Molecular Weight:     | 40.7 kDa (predicted); 50-55 kDa (reducing condition, due to glycosylation)  |

### QC Testing

|                      |  |
|----------------------|--|
| Biological Activity: | Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.   |
| Purity:              | ≥ 98 % as determined by SDS-PAGE. ≥ 90 % as determined by SEC-HPLC.  |
| Endotoxin:           | < 1.0 EU/μg of the protein as determined by the LAL method.  |
| Formulation:         | Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization. |

### Preparation and Storage

**Reconstitution:**  
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

**Stability & Storage:**

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

**Shipping:**

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Interleukin-1 receptor accessory protein (IL-1RAcP) also known as Interleukin-1 receptor member 3 (IL-1R3) is a cytokine receptor that binds interleukin 1. The IL-1 receptor accessory protein (IL1RAP) is a transmembrane protein that interacts with IL-1R and is required for IL-1 signal transduction. Interleukin 1 induces the synthesis of the acute phase and proinflammatory proteins during infection, tissue damage, or stress, by forming a complex at the cell

membrane with an interleukin 1 receptor and an accessory protein. IL-1RAcP/IL-1R3 is a necessary part of the interleukin 1 receptor complex which initiates signaling events that result in the activation of interleukin 1-responsive genes. Alternative splicing of this gene results in two transcript variants encoding two different isoforms, one membrane-bound and one soluble. The ratio of soluble to membrane-bound forms increases during acute-phase induction or stress. IL-1RAcP/IL-1R3 mediates interleukin-1-dependent activation of NF-kappa-B. Isoform 1 is part of the membrane-bound form of the IL-1 receptor. Signaling involves the formation of a ternary complex containing IL1R1, TOLLIP, MYD88, and IRAK1 or IRAK2. Isoform 2 modulates the response to interleukins by associating with soluble IL1R1 and enhancing interleukin-binding to the decoy receptor.

### Reference

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Ozaki K, et al. (2001) Effect of tumor weight and tube feeding on TNF-alpha and IL-1beta mRNA expression in the brain of mice. *JPEN J Parenter Enteral Nutr.* 25(6): 317-22.

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