Human IL1R1 / CD121a Protein (Fc Tag)

Catalog Number: 10126-H02H

General Information

Gene Name Synonym:
CD121A; D2S1473; IL-1 Ri; IL-1R-alpha; IL-1R1; IL1R; IL1RA; P80

Protein Construction:
A DNA sequence encoding the extracellular domain of human IL1R1 (NP_000868.1) (Met 1-Thr 332) was fused with human IgG1 Fc region at the C-terminus.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Bio Activity:
1. Measured by its binding ability in a functional ELISA. Immobilized human IL1-beta at 20 μg/ml (100 μl/well) can bind human IL1R1 Fc chimera with a linear range of 6.4-160 ng/ml. 2. Measured by its binding ability in a functional ELISA. 3. Immobilized human IL1B-his at 10 μg/mL (100 μl/well) can bind human IL1R1-Fc. The EC50 of human IL1R1-Fc is 0.198 μg/mL. 4. Immobilized human IL1B at 10 μg/mL (100 μl/well) can bind human IL1R1-Fc. The EC50 of human IL1R1-Fc is 0.48 μg/mL. 5. Measured by its ability to bind canine IL1B in a functional ELISA. 6. Measured by its ability to bind mouse IL1B in a functional ELISA.

Endotoxin:
< 1.0 EU per μg of the protein as determined by the LAL method

Stability:
Samples are stable for up to twelve months from date of receipt at -70 ºC

Predicted N terminal: Lys 18

Molecular Mass:
The recombinant human IL1R1/Fc chimera is a disulfide-linked homodimer. The reduced monomer consists of 553 amino acids after removal of the signal peptide and has a predicted molecular mass of 63 kDa. In SDS-PAGE under reducing conditions, it migrates with an apparent molecular mass of 80-90 kDa due to glycosylation.

Formulation:
Lyophilized from sterile PBS, pH 7.4

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

Usage Guide

Storage:
Store it under sterile conditions at -20 ºC to -80 ºC 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, type I (IL-1R1) also known as CD121α (Cluster of Differentiation 121α), is an interleukin receptor. IL-1R1/CD121α is a cytokine receptor that belongs to the interleukin 1 receptor family. This protein is a receptor for interleukin alpha (IL1A), interleukin beta (IL1B), and interleukin 1 receptor, type I (IL1R1/IL1RA). IL-1R1/CD121α is an important mediator involved in many cytokine induced immune and inflammatory responses. This protein has been characterized by pharmacological and molecular techniques in the mouse brain. The spindle-shaped astrocytes enclose the wound, separating the healthy from damaged neural tissue. The shape change and subsequent repair processes are IL-1β activity-dependent, acting through the IL-1 type 1 receptor (IL-1R1), as co-application of the IL-1type 1 receptor antagonist protein (IL-1ra) blocks IL-1β induced effects. In the spleen, a slight increase in IL-1R AcP and IL-1R1 was observed during the first hours following LPS stimulation. In conclusion, IL-1R AcP mRNA is expressed in the brain and in other tissues where IL-1R1/CD121α transcripts are found. However, the regulation of its expression is distinct from IL-1R1/CD121α.

The high level of expression and the lack of regulation of IL-1R AcP transcripts in the brain under inflammatory conditions suggest that the protein might be constitutively expressed in excess.

References