



# Recombinant Protein Technical Manual

## Recombinant Rat IL1R1/CD121a Protein (His & Fc Tag)(Active)

RPES1382

### Product Data:

**Product SKU:** RPES1382

**Size:** 50µg

**Species:** Rat

**Expression host:** HEK293 Cells

**Uniprot:** NP\_037255.3

### Protein Information:

**Molecular Mass:** 64.6 kDa

**AP Molecular Mass:** 90-95 kDa

**Tag:** C-His-Fc

**Bio-activity:** Measured by its ability to inhibit IL1 $\alpha$ -dependent proliferation in D10. G4.1 mouse helper T cells (Symons, J. A. et al. (1987) in Lymphokines and Interferons, a Practical Approach. Clemens, M. J. et al. (eds): IRL Press. 272. ). The ED50 for this effect is typically 5-20 µg/ml in the presence of 40 pg/mL of recombinant human IL1a.

**Purity:** > 85 % as determined by SDS-PAGE

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

**Storage:** Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

**Shipping:** This product is provided as lyophilized powder which is shipped with ice packs.

**Formulation:** Lyophilized from sterile PBS, pH 7.4

**Reconstitution:** Please refer to the printed manual for detailed information.

**Application:**

**Synonyms:** Il1r1

## Immunogen Information:

**Sequence:** Met 1-Lys 352

## Background:

Interleukin 1 receptor, type I (ILR1) also known as CD121a (Cluster of Differentiation 121a), is an interleukin receptor. ILR1/CD121a 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). ILR1/CD121a 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 $\beta$  activity-dependent, acting through the IL type 1 receptor (ILR1), as co-application of the ILtype 1 receptor antagonist protein (ILRa) blocks IL $\beta$  induced effects. In the spleen, a slight increase in ILR AcP and ILR1 was observed during the first hours following LPS stimulation. In conclusion, ILR AcP mRNA is expressed in the brain and in other tissues where ILR1/CD121a transcripts are found. However, the regulation of its expression is distinct from ILR1/CD121a. The high level of expression and the lack of regulation of ILR AcP transcripts in the brain under inflammatory conditions suggest that the protein might be constitutively expressed in excess.