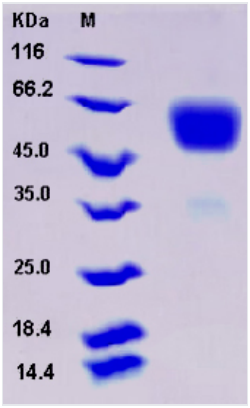
# IL1R1 / CD121a Rat Recombinant Protein

## PRODUCT OVERVIEW

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| **Product Name** | IL1R1 / CD121a, Recombinant Protein |
| **Full Product Name** | Recombinant Rat IL1R1 / CD121a Protein (His tag) |
| **Product Gene Name** | IL1R1 / CD121a recombinant protein |
| **Product Synonym Names** | Il1r1 |
| **Host** | Human Cells |
| **Form/Format** | Lyophilized from sterile PBS, pH 7.4 |
| **Purity/Purification** | > 95 % as determined by SDS-PAGE |
| **Preparation and Storage** | Samples are stable for up to twelve months from date of receipt at -70 degree C |
| **Molecular Weight** | 66,759 Da |
| **Predicted N Terminal** | Leu 34 |
| **Endotoxin** | < 1.0 EU per mug of the protein as determined by the LAL method |
| **ISO Certification** | Manufactured in an ISO 9001:2015 Certified Laboratory. |
| **Application Notes for IL1R1 / CD121a recombinant protein** | The recombinant rat IL1R1 comprises 330 amino acids and predicts a molecular mass of 38.5 kDa. The apparent molecular mass of the rat IL1R1 is approximately 50-60 kDa in SDS-PAGE under reducing conditions due to glycosylation. |
| **Related Product Information for IL1R1 / CD121a recombinant protein** | Background: Interleukin 1 receptor, type I (IL-1R1) also known as CD121a (Cluster of Differentiation 121a), is an interleukin receptor. IL-1R1/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). IL-1R1/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-1beta 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-1beta 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/CD121a transcripts are found. However, the regulation of its expression is distinct from IL-1R1/CD121a. 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.<br><br>Description: A DNA sequence encoding the rat IL1R1 (NP_037255.3) extracellular domain (Met 1-Lys 352) was expressed, fused with a polyhistidine tag at the C-terminus. |
| **Other Notes** | Small volumes of IL1R1 / CD121a recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply. |
| **Searchable Terms for IL1R1 / CD121a purchase** | MBS2547495 is a recombinant protein targeting IL1R1 / CD121a. Also known as Recombinant Rat IL1R1 / CD121a Protein (His tag). Host: Human Cells. |




**SDS-PAGE of IL1R1 / CD121a recombinant protein**

## ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for IL1R1 / CD121a. It may not necessarily be applicable to this product.

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| **NCBI GI #** | 148747433 |
| **NCBI GeneID** | 25663 |
| **NCBI Accession #** | NP_037255.3 |
| **UniProt Related Accession #** | Q02955 |
| **GenBank Nucleotide #** | NM_013123.3 |
| **NCBI Official Full Name** | interleukin-1 receptor type 1 |
| **NCBI Official Synonym Full Names** | interleukin 1 receptor type 1 |
| **NCBI Official Symbol** | Il1r1 |
| **UniProt Protein Name** | Interleukin-1 receptor type 1 |
| **UniProt Synonym Protein Names** | CD121 antigen-like family member A; Interleukin-1 receptor alpha; IL-1R-alpha |
| **UniProt Gene Name** | Il1r1 |
| **UniProt Synonym Gene Names** | Il1ra; IL-1R-1; IL-1RT-1; IL-1RT1; IL-1R-alpha; mIL-1R1; mIL-1RI; sIL-1R1; sIL-1RI |
| **NCBI Protein Information** | interleukin-1 receptor type 1 |
| **NCBI Summary for IL1R1 / CD121a** | receptor for interleukin-1; involved in inflammatory response signalling [RGD, Feb 2006] |
| **UniProt Comments for IL1R1 / CD121a** | Receptor for IL1A, IL1B and IL1RN. After binding to interleukin-1 associates with the coreceptor IL1RAP to form the high affinity interleukin-1 receptor complex which mediates interleukin-1-dependent activation of NF-kappa-B, MAPK and other pathways. Signaling involves the recruitment of adapter molecules such as TOLLIP, MYD88, and IRAK1 or IRAK2 via the respective TIR domains of the receptor/coreceptor subunits. Binds ligands with comparable affinity and binding of antagonist IL1RN prevents association with IL1RAP to form a signaling complex (). |
| **Research Articles on IL1R1 / CD121a** | **1.** The work identifies a pathogenic role of postnatal IL1b/IL-1R1 pathway and subsequent prolonged prominent increase of endocannabinoid signaling in adult seizure susceptibility following prolonged febrile seizures. |
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