

**RPES8520**

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## Product Information

<b>Product SKU:</b> RPES8520	<b>Expression Host:</b> Mammalian	<b>Size:</b> 20µg
<b>Tag:</b> C-His	<b>Reactivity:</b> Rat	<b>Accession:</b> Q02955

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## Additional Information

<b>Calculated MW:</b> 34.9 kDa	<b>Observed MW:</b> 50-70 kDa
<b>Sequence:</b> Leu20-Lys338	

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## Protein Information

**Background:** The type I IL-1 receptor (IL-1 RI, designated IL-1 R1 and CD121a) is one of at least nine members of the IL-1 R family within the Toll/IL-1 R (TIR) superfamily. IL-1 RI is an 80 kDa type I transmembrane (TM) protein that binds the pleiotropic cytokines IL-1 alpha and IL-1 beta, plus the IL-1 receptor antagonist (IL-1 Ra). Signal transduction requires complex formation with the IL-1 R accessory protein (IL-1 R AcP/IL-1 R3), another type I TM protein. This complex recruits the adaptor protein MyD88, to initiate signaling in the NF kappa B pathway. Rat IL-1 RI cDNA encodes a 576 amino acid (aa) protein that contains a 19 aa signal sequence, a 319 aa extracellular domain (ECD) with three C2-type Ig-like domains, a 21 aa TM domain and a 217 aa cytoplasmic region with a TIR domain. Rat IL-1 RI shares 83%, 65%, 60%, 60% and 54% aa identity with Mouse, Human, canine, equine and bovine IL-1 RI, respectively. Two additional splice isoforms of rat IL-1 RI have been described. One has an N-terminus that is extended by 14 amino acids, but appears to have equivalent function. The other lacks the TM sequence and is secreted as an ~82 kDa protein that antagonizes the effect of IL-1 beta. Thus, the role of IL-1 in inflammation is under several levels of control, including expression and activation of IL-1 alpha and IL-1 beta, expression of IL-1 RI and its accessory and adaptor proteins, and inhibitory IL-1 R isoforms and decoys (1-6). IL-1 RI is expressed predominantly by T

**Contact Details | Dublin, Ireland**

**Email:** [techsupport@assaygenie.com](mailto:techsupport@assaygenie.com) | **Web:** [www.assaygenie.com](http://www.assaygenie.com)

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cells, fibroblasts, and endothelial cells and mediates acute phase inflammatory responses including fever.

<b>Synonyms:</b>	-
<b>Endotoxin:</b>	< 1.0 EU/mg of the protein as determined by the LAL method
<b>Formulation:</b>	Lyophilized from a 0.2 µm filtered solution in PBS with 5% Trehalose and 5% Mannitol.
<b>Purity:</b>	> 90% as determined by reducing SDS-PAGE.
<b>Bio-Activity:</b>	Not validated for activity
<b>Storage:</b>	Generally, 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.