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**Product Data Sheet**

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Product Name: PRL R Rainbow Trout  
Cat. No.: GP20859  
Batch No.: 1

**Product Data**

|                     |   |                    |                       |
|---------------------|---|--------------------|-----------------------|
| Purity              | >98%  | Source             | Escherichia Coli.     |
| Physical Appearance | solid   | Shipping Condition | Shipped at Room temp. |
| Synonyms            | PRL-R.  |                    |                       |
| Amino Acid Sequence | The sequence of the first five N-terminal amino acids was determined and was found to be Ala-Arg-His-Thr-Pro.   |                    |                       |
| Solubility          | It is recommended to reconstitute the lyophilized PRL-R in sterile 18MΩ-cm H <sub>2</sub> O not less than 100μg/ml, which can then be further diluted to other aqueous solutions. |                    |                       |
| Formulation         | The protein was lyophilized from a concentrated (1mg/ml) solution with 0.0045mM NaHCO <sub>3</sub> .  |                    |                       |

**Introduction**

Prolactin is a pituitary hormone involved in the stimulation of milk production, salt and water regulation, growth, development and reproduction. The initial step in its action is the binding to a specific membrane receptor (prolactin receptor) which belongs to the superfamily of class 1 cytokine receptors. The function of the prolactin receptor is mediated, at least in part, by two families of signaling molecules: Janus kinases and signal transducers and activators of transcription. Prolactin (PRL) is a hormone involved in a variety of important functions including ion transport and osmoregulation, stimulation of milk, protein synthesis as well as the regulation of numerous reproductive functions. PRL exerts its influence on different cell types through a signal transduction pathway which begins with the binding of the hormone to a transmembrane PRL receptor. Immunoreactive PRL receptor, a member of the cytokine receptor family, varies in size (short and long forms) with tissue source and species, from ~40 kDa to 100 kDa. The PRL receptor consists of at least three separate domains: an extracellular region with 5 cysteines which contains the prolactin binding site, a single transmembrane domain and a cytoplasmic region, the length of which appears to

**Caution: Product has not been fully validated for medical applications. For research use only.**

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influence ligand binding and regulate cellular function.

### Biological Activity

Activity is determined by the dose-dependant inhibition of Prolactin-stimulated proliferation of Nb2 cells and by high affinity binding of oPLR and other lactogenic hormones.

### Stability

Lyophilized PRL-R although stable at room temperature for 3 weeks, should be stored desiccated below  $-18^{\circ}\text{C}$ . Upon reconstitution Prolactin Receptor should be stored at  $4^{\circ}\text{C}$  between 2-7 days and for future use below  $-18^{\circ}\text{C}$ . For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

### Background

Prolactin Receptor Rainbow Trout Extra Cellular Domain Recombinant ?produced in E.Coli is a non-glycosylated, Polypeptide chain containing 210 amino acids and having a molecular mass of 24034 Dalton. The Prolactin Receptor is purified by proprietary chromatographic techniques.

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