

Recombinant Human Prolactin, Tag Free

Product Part Number: PRL-111

Meet Your Product

Product Description	<p>Human Prolactin, also known by its gene name PRL, is a hormone produced by the pituitary gland. It is primarily responsible for promoting lactation in the mammary glands, but it also has pleiotropic effects in both males and females¹⁻⁶. Prolactin typically exists in two forms: a glycosylated and a non-glycosylated version⁶. Each prolactin molecule is believed to bind with two PRL-receptor molecules⁷. In addition to its role in lactation, peripheral prolactin production is associated with breast and prostate cancer development, regulation of reproductive function, and immune system control. Recent research has suggested that PRL has cytoprotective effects on pancreatic islet cells and liver tissue, which could be crucial for the success of transplantation in clinical settings⁸⁻¹⁰.</p> <p>In physiology, PRL appears in both glycosylated and non-glycosylated forms in specific ratios that are dynamic based on other factors; furthermore, their affinity to receptor and half-life <i>in vivo</i> are determined by post translational modifications.</p>
Synonyms	<p>Mamotropin, Luteotropic hormone, Luteotropin, PRL</p>
Sequence information	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Human Prolactin (Met 1 - Cys 227) P01236 * </div> <p style="text-align: center;">*SELEVLFG</p> <p>There is a short 8 amino acid overhang post-cleavage. Full sequence available upon request. Total - 235 aa; theoretical pI 6.14. The protein has a calculated MW of 26 kDa.</p>
Formulation	<p>Lyophilized protein in 50 mM TrisHCl, 100 mM NaCl, pH 7.4</p>
Purity & Identity	<p>>85% pure, Verified by SDS PAGE. Identity verified by western blotting (anti-PRL antibody) and mass spec. Data available upon request</p>
Safety	<p>Endotoxin: below threshold of <0.1 EU/μg of PRL. Mycoplasma negative as determined by sensitive PCR based assay.</p>
Protein Content	<p>Concentration verified by Total protein assay.</p>
Biological Activity	<p>Determined by a cell proliferation assay using Nb2-11 cell line. Effective concentration 50 (EC₅₀) ~ 1-3 ng/ml.</p>
Application	<p>Research Use Only. Not for diagnostic or therapeutic applications.</p>

Storage & Handling

Products are lyophilized and shipped at 4°C temperature. Please follow the storage and handling instructions below after receiving the product.

Storage	Store at -20°C upon receipt. For longer term storage, we recommend storage at < -70°C after reconstitution.
Stability	Stable as supplied for 3 months from date of manufacturing.
Reconstitution	Gently tap down the vial to ensure that all lyophilisate is collected at the bottom of the vial. Reconstitute the product in sterile water to at least 100 µg/mL by gently pipetting the solution down the sides of the vial. Avoid vigorous shaking that can cause foaming and protein denaturation. Keep on ice. Aliquot and store at < -70°C for up to 3 months. Avoid repeated freeze-thaw cycles by aliquoting reconstituted products.
Recommendation	As an additional precaution, after adding reconstituted products to media, filter-sterilize before use in cell culture.

Frequently Asked Questions

1. Are there any cross-species activity with this growth factor?

Yes, even though Human Prolactin shares approximately 60% to 65% similarity with rat and mouse prolactin, it can still trigger prolactin receptors from other species³.

2. Why can't I see a pellet in the vial?

Lyophilized powder may not be visible for many reasons including, but not limited to, dislodged powder being stuck on the cap or lack of carrier proteins that make the product difficult to see. Please tap or centrifuge the vial to bring all the material down to the bottom and reconstitute the product as outlined above.

3. Are there any stability concerns with freeze thawing?

Repeated freeze thawing is not recommended, as this may damage the protein products resulting in reduced functionality. After reconstitution, please aliquot into suitable sizes for one time use and freeze.

4. Can I add BSA as a carrier?

Yes. Adding a carrier protein like BSA (0.1%) enhances protein stability, increases shelf-life, and allows the recombinant protein to be stored at a more dilute concentration

5. Is this protein bioactive?

Yes, this protein was tested for activity on proliferation of NB2-11 cells.

References

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