

# Cytokines

## Human Recombinant Prolactin



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Catalog # 78098  
78098.1

Prolactin  
10 µg  
50 µg

## Product Description

Prolactin is a peptide hormone of pituitary origin and is well known for the stimulation, initiation, and maintenance of lactation. Prolactin is also known to regulate mammary gland development and immune system, and has an essential role in metabolism and behavioral modification (Bernichtein et al.). Prolactin actions are mediated by the prolactin receptor (PRLR), which is a single-chain transmembrane protein composed of an extracellular, transmembrane, and intracellular domain. It has also been indicated that high to normal circulating levels of prolactin increase breast cancer risk, and dopamine agonists have been suggested to be effective for treatment (Bernichtein et al.). Prolactin levels have been reported to be higher in multiple sclerosis patients, which promotes B cell autoreactivity (Correale et al.). It has been shown that administration of recombinant prolactin after bone marrow transplantation in mice promotes immune and myeloid reconstitution (Sun et al.).

## Product Information

**Alternative Names:** Luteotropin, Luteotropic hormone, Mammotropin, PRL  
**Accession Number:** P01236  
**Amino Acid Sequence:** MLPICPGGAA RCQVTLRDLF DRAVVLSHYI HNLSSSEMFSE FDKRYTHGRG FITKAINSCH TSSLATPEDK EQAQQMNQKD FLSLIVSILR SWNEPLYHLV TEVRGMQEAP EAILS KAVEI EEQTKRLLG MELIVSQVHP ETKENEIYPV WSGPLSLQMA DEESRLSAYY NLLHCLRRDS HKIDNYLKLL KCRIIHNNNC  
**Predicted Molecular Mass:** 23 kDa  
**Species:** Human  
**Cross Reactivity:** Rat  
**Formulation:** Lyophilized from a sterile-filtered aqueous solution containing sodium phosphate, pH 7.5.  
**Source:** E. coli

## Specifications

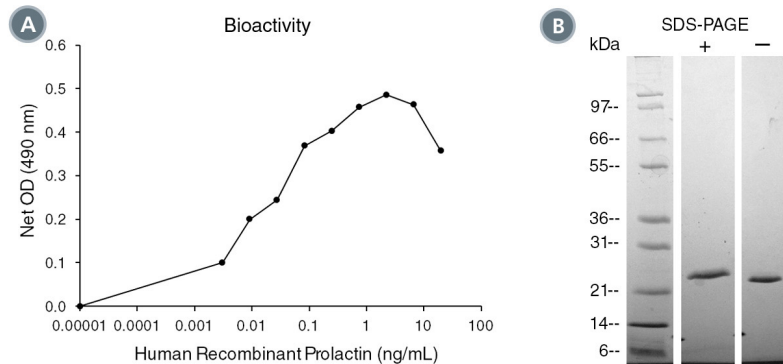
**Activity:** The specific activity is  $\geq 1 \times 10^6$  units/mg ( $EC_{50} \leq 1$  ng/mL) as determined by a cell proliferation assay using Nb2-11 cells.  
**Purity:**  $\geq 95\%$   
**Endotoxin Level:** Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is  $\leq 1$  EU/µg protein.

## Preparation and Storage

**Storage:** Store at -20°C to -80°C.  
**Stability:** Stable as supplied for 12 months from date of receipt.  
**Preparation:** Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex.

OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

## Data



(A) The biological activity of Human Recombinant Prolactin was tested by its ability to promote the proliferation of Nb2-11 cells. Cell proliferation was measured after 66 hours using a fluorometric assay method. The EC<sub>50</sub> is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC<sub>50</sub> in the above example is less than 0.02 ng/mL.

(B) 1 µg of Human Recombinant Prolactin was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant Prolactin has a predicted molecular mass of 23 kDa.

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## References

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- Correale J et al. (2014) Role of prolactin in B cell regulation in multiple sclerosis. *J Neuroimmunol* 269(1-2): 76–86.
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- Sun R et al. (2003) Immunologic and hematopoietic effects of recombinant human prolactin after syngeneic bone marrow transplantation in mice. *Biol Blood Marrow Transplant* 9(7): 426–34.

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