

## Product Information

### **Prolactin, human recombinant, expressed in *E. coli***

Catalog Number **L7009**

Storage Temperature  $-20\text{ }^{\circ}\text{C}$

Synonyms: lactogenic hormone, LTH, PRL,  
luteotropic hormone

#### **Product Description**

Prolactin (PRL) is a neuroendocrine pituitary hormone. Prolactin is synthesized by the anterior pituitary, placenta, brain, uterus, dermal fibroblasts, decidua, B cells, T cells, NK cells, and breast cancer cells. It was originally characterized as a lactogenic hormone, but now studies have shown other roles in breast cancer development, regulation of reproductive function, and immunoregulation. In the immune system, prolactin, secreted by human PBMC (peripheral blood morphologic cells), acts as a proliferative growth factor. Prolactin treatment of human PBMC enhances IFN- $\gamma$  production. Prolactin signal transduction involves the JAK/STAT families and the Src kinase family.<sup>1-5</sup>

Prolactin has several molecular forms: the predominant form is a monomer, the non-glycosylated form is 23 kDa, and the glycosylated form is 25 kDa. Glycosylated prolactin is removed from the circulation faster and has a lower biological potency.

Recombinant human prolactin is produced from a DNA sequence encoding the mature human prolactin protein sequence (amino acid residues 29-227).<sup>6</sup>

This product is lyophilized from a 0.2  $\mu\text{m}$  filtered solution of 10 mM Phosphate and 50 mM NaCl, pH 8.0.

Molecular mass:  $\sim$ 24 kDa

Purity:  $\geq$ 97% (SDS-PAGE)

The biological activity is measured in a cell proliferation assay using the rat lymphoma, Nb2-11.<sup>7</sup>

Endotoxin:  $<$ 1.0 EU (endotoxin units) per 1  $\mu\text{g}$  of prolactin (LAL)

#### **Precautions and Disclaimer**

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

#### **Preparation Instructions**

It is recommended sterile 4 mM HCl containing 1 mg/mL bovine serum albumin be added to the vial to prepare a stock solution of  $\geq$ 10  $\mu\text{g}/\text{mL}$ .

#### **Storage/Stability**

Store the lyophilized product at  $-20\text{ }^{\circ}\text{C}$  or below.

Upon reconstitution, the product can be stored under sterile conditions at 2–8  $^{\circ}\text{C}$  for up to one month. For extended storage, aliquot the reconstituted product and store at  $-20\text{ }^{\circ}\text{C}$  or below. Do not store in a frost-free freezer. Avoid repeated freeze/thaw cycles.

#### **References**

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3. Price, A.E. et al., *Endoc.*, **136**, 4827 (1995).
4. Hoffmann, T. et al., *J. Endoc. Invest.*, **16**, 8078 (1993).
5. Bellone, G. et al., *J. Cell Physiol.*, **163**, 221 (1995).
6. Cooke, N.E. et al., *J. Biol. Chem.*, **256**, 4007-4016 (1981).
7. Gout, P.W. et al., *Cancer Research*, **40**, 2433-2436.

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