

Cytokines

Human Recombinant Prolactin



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Prolactin

Catalog #	78098	10 µg
	78098.1	50 µg

Product Description

Prolactin is a peptide hormone of pituitary origin and is well known for initiation, maintenance, and stimulatory action on lactation. Prolactin is also known to regulate mammary gland development and immune system, and has essential role in metabolism and behavioral modification (Bernichtein et al.). Prolactin actions are mediated by 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 promoting 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 R et al.).

Product Information

Alternative Names:	Luteotropin, Luteotropic hormone, Mammotropin, PRL
Accession Number:	P01236
Amino Acid Sequence:	MLPICPGGAA RCQVTLRDLF DRAVVLSHYI HNLSSSEMFS FDKRYTHGRG FITKAINSCH TSSLATPEDK EQAQQMNQKD FLSLIVSILR SWNEPLYHLV TEVRGMQEAP EAILSKAVEI EEQTKRLLEG MELIVSQVHP ETKENEIYPV WSGPLSLQMA DEESRLSAYY NLLHCLRRDS HKIDNYLKLL KCRIHHNNNC
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

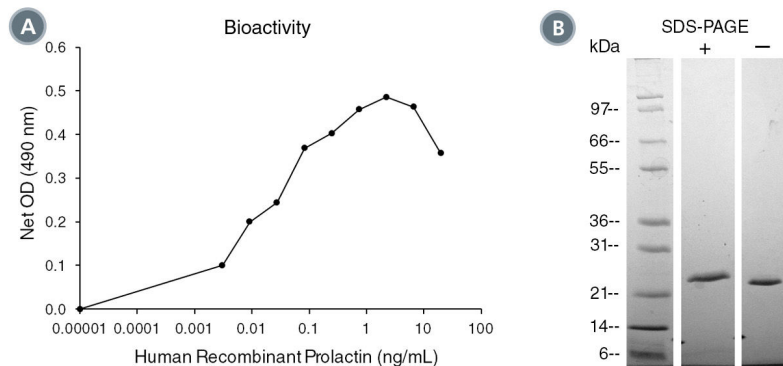
Specifications

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 of Nb2-11 cells.
Purity:	≥ 95 %
Endotoxin Level:	Measured by kinetic limulus amebocyte lysate (LAL) analysis and is ≤ 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. Resuspend the product in sterile water containing 0.1% bovine serum albumin (BSA) to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at 2 - 8°C for up to 1 month or at -20°C to -80°C for up to 3 months. Avoid repeated freeze-thaw cycles. NOTE: If reconstituted product will be used immediately BSA is not required.

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 EC50 is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC50 in the example above 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.

Related Products

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References

- Bernichtein S et al. (2010) New concepts in prolactin biology. *J Endocrinol* 206(1): 1–11.
- Correale J et al. (2014) Role of prolactin in B cell regulation in multiple sclerosis. *J Neuroimmunol* 269(1-2): 76–86.
- Kline JB & Clevenger C V. (2001) Identification and characterization of the prolactin-binding protein in human serum and milk. *J Biol Chem* 276(27): 24760–6.
- 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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