Data sheet

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Jena Bioscience

Prolactin

human, recombinant, *E. coli*

Cat. No.	Amount
PR-497	50 μg

For *in vitro* use only
Quality guaranteed for 12 months
Store at -20°C

Avoid freeze / thaw cycles

Form
Lyophilized. Prolactin was lyophilized from a solution with 10 mM Sodium phosphate buffer pH 8.0 and 50 mM NaCl.

Solubility
It is recommended to reconstitute the lyophilized Prolactin in sterile bidest H_2O not less than 100 μg/ml. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Activity
ED_{50}: < 0.065 ng/ml, determined by the dosedependent stimulation of the proliferation of rat lymphoma, Nb2-11.

Endotoxin
Less than 0.1 ng/μg (IEU/μg) of Prolactin.

Molecular Weight
23 kDa

Purity
$\geq$ 95% by SDS-PAGE and RP-HPLC

Description
Prolactin is a lactogenic hormone secreted by the adenohypophysis. Besides its major action on lactation, in some species prolactin exerts effects on reproduction, maternal behavior, fat metabolism, immunomodulation, and osmoregulation. Prolactin has been shown also to have cytokine-like and important immunoregulatory activities. It contributes to the development of lymphoid tissues and the maintenance of physiological immune function and also modulates a variety of T-cell immune responses. Prolactin has been reported to activate cellular proliferation in non-reproductive tissue, such as liver, spleen, and thymus. It induces significant proliferation in aortic smooth muscle cells and also enhances proliferation of these cells induced by PDGF. Prolactin also appears to be directly mitogenic for pancreatic beta cells. Prolactin is also mitogenic for cultured astrocytes.
Recombinant Human Prolactin produced in *E. coli* is a single, non-glycosylated polypeptide chain containing 200 amino acids and having a molecular mass of 23 kDa.
Recombinant human Prolactin is purified by proprietary chromatographic techniques.

Selected References:

Sivaprasad *et al.* (2004) Mechanism for ordered receptor binding by human prolactin. *Biochemistry.* **43**:13755.
Flynn *et al.* (2004) A mutant receptor with enhanced dominantnegative activity for the blockade of human prolactin signalling. *J. Mol. Endocrinol.* **32**:385.
Gutzman *et al.* (2004) Endogenous human prolactin and not exogenous human prolactin induces estrogen receptor alpha and prolactin receptor expression and increases estrogen responsiveness in breast cancer cells. *J. Steroid. Biochem. Mol. Biol.* **88**:69.
Esquifino *et al.* (2004) Differential effects of light/dark recombinant human prolactin administration on the submaxillary lymph nodes and spleen activity of adult male mice. *Neuroimmunomodulation.* **11**:119.
Peirce *et al.* (2004) Human prolactin and its antagonist, hPRL-G129R, regulate bax and bcl-2 gene expression in human breast cancer cells and transgenic mice. *Oncogene.* **23**:1248.
Bernichtein *et al.* (2003) The N-terminus of human prolactin modulates its biological properties. *Mol. Cell. Endocrinol.* **208**:11.