



Recombinant Mouse Prolactin

20150227BB



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	M10-127
Size:	50 µg
Lot. No.:	According to product label

Scientific Background

Gene-ID (NCBI):	19109
Synonyms:	Prl; Prl1a1; AV290867

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. Originally characterized as a lactogenic hormone, further studies have demonstrated broader roles in breast cancer development, regulation of reproductive function, and immunoregulation. In the immune system, Prolactin has been shown to be secreted by human PBMC and to act as a proliferative growth factor. Additionally, Prolactin treatment of human PBMC has been shown to enhance IFN γ production. In the breast, Prolactin-induced morphogenesis of the mammary cells is mediated through IGF2, which in turn up-regulates cyclin D1. 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 been reported to have lower biological potency. Mouse Prolactin cDNA encodes a 228 amino acid (aa) residue protein with a putative 31 aa residue signal peptide. The Prolactin receptor is a transmembrane type I glycoprotein that belongs to the cytokine hematopoietic receptor family. B cells, T cells, macrophages, NK cells, monocytes, CD34+ progenitor cells, neutrophils, mammary gland, liver, kidney, adrenals, ovaries, testis, prostate, seminal vesicles, and hypothalamus have all been shown to express the Prolactin receptor. Three forms of the receptor, generated by differential splicing, have been identified. These isoforms differ in the length of their cytoplasmic domains. It is believed that the short cytoplasmic form is non functional. Prolactin signal transduction involves the JAK/STAT families and Src kinase family.

Sequence

```
MLPICSAGDC QTSRLRELFDR VVILSHYIHT LYTDMFIEFD
KQYVQDREFM VKVINDCPTS SLATPEDKEQ ALKVPPEVLL
NLILSLVQSS SDPLFQLITG VGGIQEAPFY ILSRAKEIEE
QNKQLLEGVE KIISQAYPEA KNGIYFVWS QLPSTLQGVDE
ESKILSLRNT IRCLRRDSHK VDNFLKVLRC QIAHQNNC
```

Database References

Protein RefSeq:	CAA28018.1
Uniprot ID:	P06879
mRNA RefSeq:	X04418.1

Product Specifications

Expressed in	E. coli
Purity	> 98% by SDS-PAGE & HPLC analyses
Endotoxin level	< 0.1 ng /µg of protein (<1EU/µg).
Formulation	lyophilized
Length (aa):	198
MW:	22.5 kDa

Biological Activity: Determined by its ability to induce the proliferation of rat Nb2-11 cells in the concentration range of 0.1-1.0 ng/ml.



AVOID REPEATED FREEZE AND THAW CYCLES!