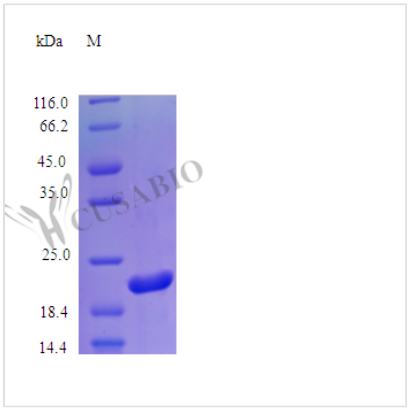
Recombinant Mouse Prolactin (Prl) (Active)

Product Code	CSB-AP000071MO
Abbreviation	Recombinant Mouse Prl protein (Active)
Uniprot No.	P06879
Storage Buffer	0.2 μm filtered PBS, pH 7.4 ,lyophilized
Product Type	Hormones
Immunogen Species	Mus musculus (Mouse)
Biological Activity	Fully biologically active when compared to standard. The ED50 as determined by a cell proliteration assy using rat Nb2-11 cells is less than 1.0 ng/ml, corresponding to a speicfic activity of> 1.0 x10^6 IU/mg.
Purity	>98% as determined by SDS-PAGE.
Sequence	LPICSAGDCQ TSLRELFDRV VILSHYIHTL YTDMFIEFDK QYVQDREFMV KVINDCPTSS LATPEDKEQA LKVPPEVLLN LILSLVQSSS DPLFQLITGV GGIQEAPEYI LSRAKEIEEQ NKQLLEGVEK IISQAYPEAK GNGIYFVWSQ LPSLQGVDEE SKILSLRNTI RCLRRDSHKV DNFLKVLRCQ IAHQNNC
Research Area	Signal Transduction
Source	E.Coli
Target Names	Prl
Expression Region	30-226aa
Tag Info	Tag-Free
Mol. Weight	22.4 kDa
Protein Length	Full Length of Mature Protein
PubMed ID	2991252; 3756168; 16141072

Image



Description

The recombinant mouse Prolactin (PRL) is an active protein. It is synthesized in E. coli, involving the co-insertion of the gene of interest (30-226aa of mouse PRL) into an expression vector and subsequent transformation of it into E. coli

cells. The cells are cultured to produce the protein, which is extracted by cell lysis. Purification is done using affinity chromatography. Its purity is assessed using SDS-PAGE, exceeding 98%. Its endotoxin content is less than 1.0 EU/μg as determined by the LAL method. Its activity has been determined by a cell proliferation assay.

Research indicates that PRL is involved in stress responses and can enhance the production of aldosterone and glucocorticoids in species such as rats, guinea pigs, mice, pigs, and humans [1]. In mice and rats, the PRL locus encodes a family of proteins with hormone and cytokine activities that contribute to the regulation of reproduction [2]. PRL concentrations in the circulation of mice follow a well-characterized pattern throughout pregnancy [3]. Studies have shown that PRL signaling mechanisms can be studied using models like Nb2 cells and mouse mammary gland explants, where PRL influences cell mitogenesis and milk product synthesis [4][5]. PRL also inhibits cell growth and mineralization in human osteoblasts [6].

PRL is implicated in mammary gland development and tumorigenesis, with PRL gene-disrupted mice showing arrested mammary gland development and reduced tumor growth [7]. The hormone activates signaling pathways in mammary tumor cell lines and normal mammary epithelial cells [8]. Additionally, PRL has been shown to stimulate cell proliferation through specific receptor activation and ion channel modulation [9].

References:

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Endotoxin	Less than 1.0 EU/μg as determined by LAL method.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.