# Recombinant Human Prolactin receptor (PRLR), partial

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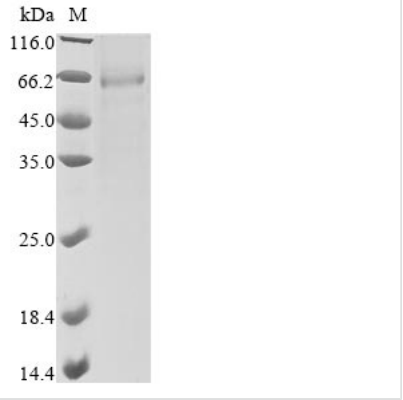
| **Product Code** | CSB-MP018727HU1 |
| **Abbreviation** | Recombinant Human PRLR protein, partial |
| **Storage** | The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C. |
| **Uniprot No.** | P16471 |
| **Form** | Liquid or Lyophilized powder |
| **Storage Buffer** | If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose. |
| **Product Type** | Recombinant Protein |
| **Immunogen Species** | Homo sapiens (Human) |
| **Purity** | Greater than 85% as determined by SDS-PAGE. |
| **Sequence** | QLPPGKPEIFKCRSPNKETFTCWWRPGTDGGLPTNYSLTYHREGETLMHECP DYITGGPNSCHFGKQYTSMWRTYIMMVNATNQMGSSFSDELYVDVTYIVQPD PPLELAVEVKQPEDRKPYLWIKWSPPTLIDLKTGWFTLLYEIRLKPEKAAEWEI HFAGQQTEFKILSLHPGQKYLVQVRCKPDHGYWSAWSPATFIQIPSDFTMND |
| **Research Area** | Signal Transduction |
| **Source** | Mammalian cell |
| **Target Names** | PRLR |
| **Expression Region** | 25-234aa |
| **Notes** | Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week. |
| **Tag Info** | C-terminal hFc1-tagged |
| **Mol. Weight** | 53.3 kDa |
| **Protein Length** | Partial |
| **Image** | |




(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

## Description

Recombination of a plasmid that contains the human Prolactin receptor (PRLR) protein (25-234aa) encoding gene and the C-terminal FC-tag gene is the first step during the production of the recombinant human PRLR protein. The constructed plasmid is introduced into mammalian cells. Mammalian cells that can survive in the presence of a specific antibiotic are selected to be cultured for the induction of protein expression. After expression, CUSABIO uses affinity purification to isolate and purify the recombinant human PRLR protein from the cell lysate. Denaturing SDS-PAGE is then applied to resolve the resulting recombinant human PRLR protein. Its purity exceeds 85%.

PRLR is a vital receptor involved in various important bodily processes. It's particularly significant in the development of mammary glands during pregnancy and lactation [1]. PRLR comes in different structures and functions, and its transcripts and proteins differ across various tissues [2]. The expression of PRLR is controlled by several promoters, leading to varied regulation in different tissues [3]. PRLR plays roles in diverse biological functions like lactation, reproduction, metabolism, behavior, immune regulation, growth, and maintaining water-salt balance, all through specific prolactin receptors [3]. Moreover, PRLR's specific function and how much it's expressed depend on the tissue [4].

In breast cancer, both PRL and PRLR are crucial for normal breast development and cancer formation [5]. PRLR has two similar repeated units in its extracellular domain, with the unit nearer to the membrane binding specifically with prolactin [6]. PRLR also helps mammary epithelial cell (MEC) differentiation, including the induction of milk proteins, which depend on STAT5 [7]. Additionally, PRLR has been found to regulate pain responses, specifically in females, through a mechanism that targets nociceptors [8]. It's also a promising target for antibody therapy because it's expressed in many types of breast cancers [9].

Regulating PRLR is complex and involves various modulators such as steroid hormones and protein kinase C [10]. Furthermore, the protein-tyrosine phosphatase SHP-2 influences signaling events through PRLR [11]. Moreover, the protein kinase GSK3β plays a key role in the degradation of PRLR by phosphorylating the serine residue at position 349 [12]. Finally, a fusion protein with dual functions has been shown to increase cell death in PRLR-positive breast cancer cells when co-cultured with natural killer cells [13].

References:

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| **Reconstitution** | We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference. |
| **Shelf Life** | The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself.<br>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. |