

Rat PRLR / Prolactin receptor Protein (His Tag)

Catalog Number: 80062-R08H



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

MGC105486; RATPRLR

Protein Construction:

A DNA sequence encoding the rat PRLR (P05710-1) extracellular domain (Met 1-Asp 229) was expressed, fused with a polyhistidine tag at the C-terminus.

Source: Rat

Expression Host: HEK293 Cells

QC Testing

Purity: > 97 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Gln 20

Molecular Mass:

The recombinant rat PRLR comprises 221 amino acids and predicts a molecular mass of 26 kDa. The apparent molecular mass of the rat PRLR is approximately 38 kDa in SDS-PAGE under reducing conditions due to glycosylation.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

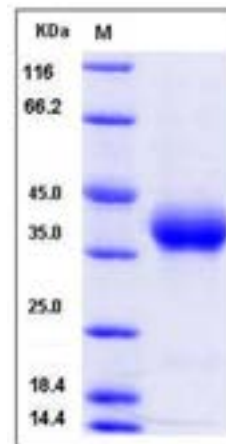
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Prolactin receptor (PRLR) is a single-pass transmembrane receptor belonging to the type I cytokine receptor superfamily, and contains two fibronectin type-III domains. All class 1 ligands activate their respective receptors by clustering mechanisms. Ligand binding results in the transmembrane PRLR dimerization, followed by phosphorylation and activation of the molecules involved in the signaling pathways, such as Jak-STAT, Ras/Raf/MAPK. The PRLR contains no intrinsic tyrosine kinase cytoplasmic domain but associates with a cytoplasmic tyrosine kinase, JAK2. PRLR mainly serves as the receptor for the pituitary hormone prolactin (PRL), a secreted hormone that affects reproduction and homeostasis in vertebrates. PRLR can be regulated by an interplay of two different mechanisms, PRL or ovarian steroid hormones independently or in combination in a tissue-specific manner. The role of the hormone prolactin (PRL) in the pathogenesis of breast cancer is mediated by its cognate receptor (PRLR). Ubiquitin-dependent degradation of the PRLR that negatively regulates PRL signaling is triggered by PRL-mediated phosphorylation of PRLR on Ser349 followed by the recruitment of the beta-transducin repeats-containing protein (beta-TrCP) ubiquitin-protein isopeptide ligase, which altered PRLR stability may directly influence the pathogenesis of breast cancer.

References

1. Bole-Feysot C, *et al.* (1998) Prolactin (PRL) and its receptor: actions, signal transduction pathways and phenotypes observed in PRL receptor knockout mice. *Endocr Rev.* 19(3): 225-68.
2. Goffin V, *et al.* (1999) From the molecular biology of prolactin and its receptor to the lessons learned from knockout mice models. *Genet Anal.* 15(3-5): 189-201.
3. Li Y, *et al.* (2006) Stabilization of prolactin receptor in breast cancer cells. *Oncogene.* 25(13): 1896-902.

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For US Customer: Fax: 267-657-0217

• Tel: 215-583-7898

Global Customer: Fax :+86-10-5862-8288

• Tel:+86-400-890-9989

• <http://www.sinobiological.com>