Recombinant Mouse Prolactin

Catalog Number: 1445-PL

DESCRIPTION

Source	*E. coli*-derived mouse Prolactin protein Leu32-Cys228, with an N-terminal Met Accession # NP_035294
N-terminal Sequence Analysis	Met
Predicted Molecular Mass	22.6 kDa

SPECIFICATIONS

Activity	Measured in a cell proliferation assay using Nb2-11 rat lymphoma cells. Gout, P.W. *et al.* (1980) Cancer Res. **40**:2433. The ED_{50} for this effect is 0.25-1 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Prolactin (gene name PRL) is a secreted neuroendocrine pituitary hormone that acts primarily on the mammary gland to promote lactation, but has pleiotropic effects in both males and females (1-3). Mouse Prolactin is predominantly found as 23 kDa non-glycosylated monomers. Mouse prolactin shares 60% and 85% amino acid sequence identity with human and rat prolactin, respectively; however, activation of the human prolactin receptor by rat prolactin has been demonstrated (3). Prolactin is synthesized mainly by the anterior pituitary in all mammals, where secretion is under tonic inhibition by hypothalamic dopamine (2, 3). Secretion can be stimulated by suckling and diurnally by estradiol in rodents during pro-estrus and mating (2). In humans prolactin is also produced peripherally, while in rodents, the only known non-pituitary source is the placenta (1-3). Mouse serum Prolactin declines until mid-pregnancy, but increases in late pregnancy (1). Post-translational modifications such as polymerization, phosphorylation, and proteolytic cleavage can alter the activities of prolactin (3). Cleavage by matrix metalloproteinases or Cathepsin D can produce N-terminal 16 kDa antiangiogenic fragments also called vasoinhibins (4, 5). Thrombin can produce C-terminal 16 kDa fragments that are not antiangiogenic (3). The prolactin receptor (gene name PRLR) is a transmembrane type I glycoprotein that belongs to the cytokine hematopoietic receptor family. Expression of the prolactin receptor is widespread (2, 3). Each prolactin molecule is thought to bind two receptor molecules (6).

References:

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2. Grattan, D.R. and I.C. Kokay (2008) J. Neuroendocrinol. **20**:752.
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4. Piwnica, D. *et al.* (2006) Mol. Endocrinol. **20**:3263.
5. Macotela, Y. *et al.* (2006) J. Cell Sci. **119**:1790.
6. Broutin, I. *et al.* (2010) J. Biol. Chem. **285**:8422.

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