Product Description

Prolactin is a peptide hormone of pituitary origin and is well known for the stimulation, initiation, and maintenance of lactation. Prolactin is also known to regulate mammary gland development and immune system, and has an essential role in metabolism and behavioral modification (Bernichtein et al.). Prolactin actions are mediated by the prolactin receptor (PRLR), which is a single-chain transmembrane protein composed of an extracellular, transmembrane, and intracellular domain. It has also been indicated that high to normal circulating levels of prolactin increase breast cancer risk, and dopamine agonists have been suggested to be effective for treatment (Bernichtein et al.). Prolactin levels have been reported to be higher in multiple sclerosis patients, which promotes B cell autoreactivity (Correale et al.). It has been shown that administration of recombinant prolactin after bone marrow transplantation in mice promotes immune and myeloid reconstitution (Sun et al.).

Product Information

Alternative Names: Luteotropin, Luteotropic hormone, Mammotropin, PRL
Accession Number: P01236
Amino Acid Sequence: MLPICPGGAA RCQVTLDLF DRAVVLHSYI HNLSEMFSE FDKRYTHGRG FITKAINSCH TSSLATPEDK EQAQQMNQKD FLSLIVSILR SWNEPLYHLV TEVRGMQEAP EAILSKAVEI EEQTKRLLEG MELIVSQVHP ETKENEIYPV WSGLPSLQMA DEESRLSAYY NLLHCLRRDS HKIDNYKLLE CRHIHNNNC
Predicted Molecular Mass: 23 kDa
Species: Human
Cross Reactivity: Rat
Formulation: Lyophilized from a sterile-filtered aqueous solution containing sodium phosphate, pH 7.5.
Source: E. coli

Specifications

Activity: The specific activity is ≥ 1 x 10^6 units/mg (EC50 ≤ 1 ng/mL) as determined by a cell proliferation assay using Nb2-11 cells.
Purity: ≥ 95%
Endotoxin Level: Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 1 EU/μg protein.

Preparation and Storage

Storage: Store at -20°C to -80°C.
Stability: Stable as supplied for 12 months from date of receipt.
Preparation: Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex.

OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.
Data

(A) The biological activity of Human Recombinant Prolactin was tested by its ability to promote the proliferation of Nb2-11 cells. Cell proliferation was measured after 66 hours using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC50 in the above example is less than 0.02 ng/mL.

(B) 1 μg of Human Recombinant Prolactin was resolved with SDS-PAGE under reducing (+) and non-reducing (−) conditions and visualized by Coomassie Blue staining. Human Recombinant Prolactin has a predicted molecular mass of 23 kDa.

Related Products

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References