

Prolactin Releasing Peptide (12-31), human

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|-----------------------------|---|
| Cat. No.: | HY-P1530 |
| CAS No.: | 235433-36-0 |
| Molecular Formula: | C ₁₀₄ H ₁₅₈ N ₃₂ O ₂₆ |
| Molecular Weight: | 2272.57 |
| Sequence: | Thr-Pro-Asp-Ile-Asn-Pro-Ala-Trp-Tyr-Ala-Ser-Arg-Gly-Ile-Arg-Pro-Val-Gly-Arg-Phe-NH ₂ TPDINPAWYASRGIRPVGRF-NH ₂ |
| Sequence Shortening: | TPDINPAWYASRGIRPVGRF-NH ₂ |
| Target: | Others |
| Pathway: | Others |
| Storage: | Sealed storage, away from moisture and light, under nitrogen Powder -80°C 2 years -20°C 1 year |

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light, under nitrogen)

SOLVENT & SOLUBILITY

In Vitro

H₂O : 100 mg/mL (44.00 mM; Need ultrasonic)

| Preparing Stock Solutions | Solvent | 1 mg | 5 mg | 10 mg |
|---------------------------|---------------|-----------|-----------|-----------|
| | Concentration | | | |
| | 1 mM | 0.4400 mL | 2.2002 mL | 4.4003 mL |
| | 5 mM | 0.0880 mL | 0.4400 mL | 0.8801 mL |
| | 10 mM | 0.0440 mL | 0.2200 mL | 0.4400 mL |

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Prolactin Releasing Peptide (12-31), human is a fragment of the prolactin releasing peptide (PrRP). Prolactin Releasing Peptide (1-31), human is a high affinity GPR10 ligand that cause the release of the prolactin.

IC₅₀ & Target

GPR10^[1]

In Vitro

The Prolactin Releasing Peptide (PrRP) is a C-terminally amidated, 31-amino acid peptide derived from a 98-amino acid precursor. Radioiodinated PrRP-(1-31) binds to its receptor with high affinity (1 nM) and stimulates calcium mobilization in CHOK1 cells stably transfected with the receptor. A series of N-terminal deletions reveals that the Prolactin Releasing Peptide (12-31) amino acid is equipotent to PrRP-(1-31). Further N-terminal deletions reduce the affinity of the ligand considerably^[1]. Prolactin Releasing Peptide (PrRP) has been identified as a specific, high affinity endogenous ligand for GPR10. Prolactin Releasing Peptide (PrRP) preproprotein can be cleaved at two different positions to give rise to two forms of 31 or 20 amino acids; Prolactin Releasing Peptide (PrRP)-31 and Prolactin Releasing Peptide (PrRP)-20 respectively. Rat

Prolactin Releasing Peptide (PrRP) has also been identified and occurs as 31 or 20 amino acid forms; these peptides are highly conserved between species. Human PrRP₂₀, human PrRP₃₁, rat PrRP₂₀ and rat PrRP₃₁ display high affinity for GPR10 receptors, with K_i values of 0.26 ± 0.07 , 1.03 ± 0.41 , 0.22 ± 0.06 and 0.33 ± 0.11 nM, respectively^[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Following intracerebroventricular injection of Prolactin Releasing Peptide (1-31), human 5 nM there is a highly significant stimulation of plasma LH that began at 10 minutes and is maintained over the course of the experiment. Plasma FSH increased at 20 minutes following ICV injection. Total plasma testosterone increased at 60 minutes post injection^[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Animal Administration ^[3]

Rats^[3]

Groups of rats are injected with either Prolactin Releasing Peptide (1-31) 5 nM or saline. Prolactin Releasing Peptide (1-31), human is dissolved in saline is administered in a total volume of 10 μ L. Animals are habituated to the injection procedures by three ICV injections prior to the study to minimize stress in the animals. At 10, 20, 60 minutes following injection, rats are decapitated and trunk blood collected into plastic tubes^[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Roland BL, et al. Anatomical distribution of prolactin-releasing peptide and its receptor suggests additional functions in the central nervous system and periphery. *Endocrinology*. 1999 Dec;140(12):5736-45.

[2]. Langmead CJ, et al. Characterization of the binding of [(125)I]-human prolactin releasing peptide (PrRP) to GPR10, a novel G protein coupled receptor. *Br J Pharmacol*. 2000 Oct;131(4):683-8.

[3]. Seal LJ, et al. Prolactin releasing peptide (PrRP) stimulates luteinizing hormone (LH) and follicle stimulating hormone (FSH) via a hypothalamic mechanism in male rats. *Endocrinology*. 2000 May;141(5):1909-12.

Caution: Product has not been fully validated for medical applications. For research use only.

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