Prolactin Releasing Peptide (12-31), human

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-NH2
Sequence Shortening:	TPDINPAWYASRGIRPVGRF-NH2
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)

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.
IC_{50} & 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 PrRP□20, human PrRP□31, rat PrRP□20 and rat PrRP□31 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 simulation 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 μL. 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.

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