Kisspeptin-10

Molecular Formula: C63H83N17O14

Molecular Weight: 1302.462 g/mol | Sequence: Tyr-Asn-Trp-Asn-Ser-Phe-Gly-Leu-Arg-Phe-NH

DESCRIPTION:

Kisspeptin-10 is a group of neuroendocrine peptides that stimulate the release of Gonadotropin Releasing Hormone (GnRH) and is involved in the regulation of developmental sex hormones at the beginning stages of puberty. There have been problems in maturation centered around receptor mutations for kisspeptin-10. Kisspeptin-10 is encoded by the KISS1 gene, which was originally identified as a human metastasis suppressor gene for melanoma and breast cancer. Kisspeptin-10 has shown therapeutic benefits regarding the upregulation of the endogenous production of Luteinizing Hormone (LH) and Follicular Stimulating Hormone (FSH) through the HPA axis. Thus, it can stimulate Leydig cells to produce testosterone without the result of hypogonadism shown with exogenous testosterone usage. The expression of Kiss1 has also been altered in other situations of energy imbalance such as obesity and diabetes. It has also been shown to reverse the effects of hypogonadotropic hypogonadism. It also shows other physiologic effects such as helping with egg implantation and maturation in reproduction, as well as the prevention of ectopic pregnancy. Further, in the kidneys it has been shown to increase aldosterone production as well as pregnenolone breakdown and kisspeptin-10 – angiotensin2 production.

PROTOCOL:

Content & Potency: Provided as a 3mg lyophilized vial

Vial reconstitution: 3ml sterile water for injection

Suggested dosage: Inject 100-200mcg (0.10-0.20ml or 10-20units) subcutaneously once daily.

CLINICAL RESEARCH:

Kisspeptin-10 Is a Potent Stimulator of LH and Increases Pulse Frequency in Men

Intravenous bolus kisspeptin-10 resulted in a rapid and dose-dependent rise in serum LH concentration, with maximal stimulation at 1 μg/kg (4.1 ± 0.4 to 12.4 ± 1.7 IU/liter at 30 min, $P < 0.001$, $n = 6$). Administration of 3 μg/kg elicited a reduced response vs. 1 μg/kg ($P < 0.05$). Infusion of kisspeptin-10 at 4 μg/kg · h for 22.5 h elicited an increase in LH from a mean of 5.4 ± 0.7 to 20.8 ± 4.9 IU/liter ($n = 4$; $P < 0.05$) and serum testosterone increased from 16.6 ± 2.4 to 24.0 ± 2.5 nmol/liter ($P < 0.001$). LH pulses were obscured at this high rate of secretion, but a lower dose infusion of kisspeptin-10 (1.5 μg/kg · h) increased mean LH from 5.2 ± 0.8 to 14.1 ± 1.7 IU/liter ($n = 4$; $P < 0.01$) and increased LH pulse frequency from 0.7 ± 0.1 to 1.0 ± 0.2 pulses/h ($P < 0.05$) and secretory burst mass from 3.9 ± 0.4 to 12.8 ± 2.6 IU/liter ($P < 0.05$). Kisspeptin-10 boluses potently evoke LH secretion in men, and continuous infusion increases testosterone, LH pulse frequency, and pulse size. Kisspeptin-10 analogues have therapeutic potential as regulators of LH and thus testosterone secretion.

George, J T et al. "Kisspeptin-10 is a potent stimulator of LH and increases pulse frequency in men." The Journal of clinical endocrinology and metabolism vol. 96,8 (2011): E1228-36. doi:10.1210/jc.2011-00