

<b>Name</b>	<b>Gonadorelin, Acetate</b>
<b>Cat #</b>	PP-1370
<b>Size</b>	100 mg and custom size
<b>CAS#</b>	71447-49-9
<b>Mol.Mass</b>	1182.3
<b>Formula</b>	C <sub>55</sub> H <sub>75</sub> N <sub>17</sub> O <sub>13</sub>
<b>Sequence</b>	Pyr-His-Trp-Ser-Tyr-Gly-Leu-Arg-Pro-Gly-NH <sub>2</sub>
<b>Purity</b>	>99%
<b>Appearance</b>	Powder

Gonadorelin, also known as GnRH or LHRH, is produced by neuroendocrine cells within the hypothalamus. Gonadorelin primarily stimulates the synthesis and release of luteinizing hormone (LH) from the anterior pituitary gland. Follicle-stimulating hormone (FSH) production and release is also increased by gonadorelin, but to a lesser degree. These processes are controlled by the size and frequency of GNRH pulses, as well as by feedback from androgens and estrogens. Low frequency GNRH pulses lead to FSH release, whereas high frequency GNRH pulses stimulate LH release. After a transient increase, continuous administration of gonadorelin results in down regulation of LH and FSH levels followed by a suppression of ovarian and testicular steroid biosynthesis. GnRH secretion is pulsatile in all vertebrates, and is necessary for correct reproductive function.

**Gonadorelin, Acetate** is significant in the diagnosis of Hypogonadism. Gonadorelin as a single dose (gonadorelin test) is indicated for evaluation of the functional capacity and response of gonadotropes in the anterior pituitary in postpubertal patients who are suspected of having gonadotropin deficiency. Administration of gonadorelin is used to simulate the physiologic release of GnRH from the hypothalamus in treatment of delayed puberty, treatment of infertility caused by hypogonadotropic hypogonadism, and induction of ovulation in those women with hypothalamic amenorrhea. This results in increased levels of pituitary gonadotropins LH and FSH, which subsequently stimulate the gonads to produce reproductive steroids.

GnRH activity is very low during childhood, and is activated at puberty or adolescence. GnRH production/release is one of the few confirmed examples of behavior influencing hormones. There are differences in GNRH secretion between females and males. In males, GNRH is secreted in pulses at a constant frequency, but in females the frequency of the pulses varies during the menstrual cycle and there is a large surge of GNRH just before ovulation.

**General References:** Jayes (2013) *Biology of Reproduction* **56**: 1012-1019. Chee SS (2013) *Behav. Brain Res.* **237**: 318–24. Dungan HM (2006) *Endocrinology* **147** (3): 1154–8.

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#### Related items:

<b>Catalog#</b>	<b>ProdDescription</b>
PP-1380	Gonadorelin, TFA (Gonadotropin-releasing hormone (GnRH)/LHRH)
RP-1484	Human Chorionic Gonadotropin (HCG)
RP-1485	Human Menopausal Gonadotropin
RP-1496	Pregnant Mare Serum Gonadotropin
RP-599	Recombinant Human Chorionic Gonadotropin
SP-62542-1	Chorionic Gonadotropin-β(109-145) (human) (MW: 1268.31)
SP-89442-5	Chorionic Gonadotropin-β(109-119) amide (human) (MW: 1269.31)

PP-1370

Rev.140206p

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