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Luteinizing Hormone-Releasing Hormones (LHRH) and Related Peptides

Luteinizing Hormone-Releasing Hormones (LHRH) and Related Peptides

Luteinizing hormone-releasing hormone (LHRH), also known as Gonadotropin-Releasing Hormone (GnRH) or Luteinizing Hormone-Releasing Factor (LRF), is a hypothalamic neuropeptide which acts on the pituitary to stimulate the release of luteinizing hormone (LH) and follicle-stimulating hormone (FSH). LH and FSH, collectively called gonadotropins, are involved in the control of gonadal steroids, estrogens in female organisms and androgens in male organisms. The effects of LHRH are mediated by high-affinity G protein-coupled LHRH-receptor (LHRH-R) on pituitary gonadotropes. LHRH may act as a growth modulatory factor in tumors of the reproductive system. LHRH and LHRH receptors (LHRH-Rs) are expressed in human melanoma cells and LHRH-Rs are found in greater than 50% of human breast cancers.

Ref: Horvath, J. et al. *Proc. Natl. Acad. Sci. USA* **99**, 15048 (2002); Clayton, R.J. *Endocrinol.* **120**, 11 (1989); Moretti et al. *Endocr. Relat. Cancer* **10**, 161 (2003); Schally, AV. et al. *In Infertility and Reproductive Medicine Clinics of North America*, ed. Devroey, P. (Saunders, Philadelphia) **12**, 17 (2001); Morales et al. *Eur. J. Neurosci.* **18**, 2505 (2003); Green, H. et al. *Psychology, Health and Medicine* **5**, 407 (2000); Williams, G. et al. *Prostatic Dis.* **6**, 187 (2003); Bajo, AM. et al. *Clin. Cancer Res.* **3742** (2003).

Product	MW	Size	Catalog#	US\$
Antide Ac-(D-Nal)-(D-p-CI-Phe)-(D-Pal)-Ser-Lys(nicotinoyl)-[D-Lys(nicotinoyl)]-Leu-Lys(isopropyl)-Pro-[D-Ala]-NH ₂ Ref: Ljungqvist, A. et al. <i>Proc. Natl. Acad. Sci. USA</i> 85 , 8236 (1988).	1591.3	1 mg	60996	\$60
Luteinizing Hormone-Releasing Hormone (LH-RH), human; Pyr-HWSYGLRPG-NH ₂ Pyr-His-Trp-Ser-Tyr-Gly-Leu-Arg-Pro-Gly-NH ₂ This decapeptide is a hypothalamic hormone that controls the release of luteinizing hormone (LH) and follicle-stimulating hormone (FSH) in the pituitary gland and promotes mating behavior. It stimulates the secretion of gonadotropins after its interaction with specific G-protein-coupled receptors that are present in plasma membranes of pituitary gonadotrophs. In addition to hypophysiotropic effect, it also plays a autocrine/paracrine role in peripheral organs such as prostate, breast and ovary. Luteinizing hormone-releasing hormone is not only a neurohormone but may also function as a neurotransmitter or neuromodulator. Ref: Kiss, J. and B. Halasz, <i>Neurosci.</i> 14 , 69 (1985); Zheng, L. et al. <i>Neurosci.</i> 46 , 407 (1992); Collado, B. et al. <i>Intl. J. Oncol.</i> 24 , 725 (2004); Hoffman, G. et al. <i>Brain Res.</i> 2005 Aug 5; [Epub ahead of print]; Wang, V. et al. <i>Am. J. Obstet. Gynecol.</i> 160 , 984 (1989); Volker, P. et al. <i>Am. J. Obstet. Gynecol.</i> 186 , 171 (2002).	1182.3	5 mg 25 mg	20781 20782	\$35 \$135
Luteinizing Hormone-Releasing Hormone (LH-RH), free acid, human Pyr-HWSYGLRPG Pyr-His-Trp-Ser-Tyr-Gly-Leu-Arg-Pro-Gly-OH Ref: Ananthanarayanan, V. et al. <i>J. Peptide Res.</i> 52 , 185 (1998); Chou, J. et al. <i>FASEB J.</i> 10 , A654 (1996).	1183.3	1 mg 5 mg	24220 24221	\$20 \$80
Luteinizing Hormone-Releasing Hormone (LH-RH), salmon Pyr-HWSYGWLPNG-NH ₂ Pyr-His-Trp-Ser-Tyr-Gly-Trp-Leu-Pro-Gly-NH ₂	1212.3	1 mg 5 mg	24222 24223	\$25 \$100
Cetrorelix Acid Ac-{D-Ala[3-(2-naphthyl)]-[D-Phe(4-Cl)]-[D-Ala[3-(3-pyridyl)]]-Ser-Tyr-(D-Cit)-Leu-Arg-Pro-D-Ala-OH	1432.1	1 mg 5 mg	22909 22910	\$150 \$600
Cetrorelix Acetate, Cetrotide Ac-{D-Ala[3-(2-naphthyl)]-[D-Phe(4-Cl)]-[D-Ala[3-(3-pyridyl)]]-Ser-Tyr-(D-Cit)-Leu-Arg-Pro-D-Ala-NH ₂ • Acetate A highly modified luteinizing hormone-releasing hormone (LHRH) decapeptide with a terminal amide group, this peptide is a LHRH antagonist. It regulates the expression of Galphas and Galphai protein subunits and adenylate cyclase activity in ovary, breast and pituitary. Cetrorelix competitively inhibits LHRH receptor in the pituitary gland to suppress ovarian and testicular functions. Ref: Collado, B. et al. <i>Intl. J. Oncol.</i> 24 , 725 (2004); Schwahn, M. et al. <i>Drug Metabolism and Disposition.</i> 28 , 10 (2000).	1431.2•60	1 mg	60869	\$150