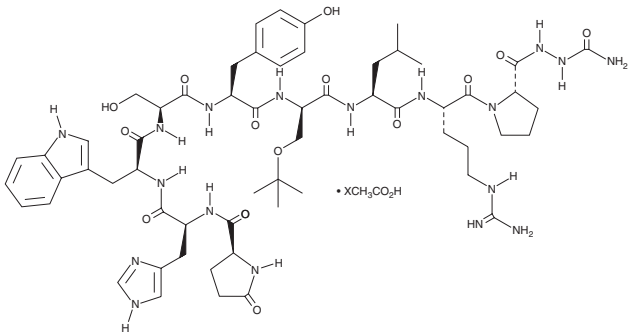
PRODUCT INFORMATION

Goserelin (acetate)

Item No. 24071

CAS Registry No.: 145781-92-6
Formal Name: 2-(aminocarbonyl)hydrazide-6-[O-(1,1-dimethylethyl)-D-serine]-1-9-luteinizing hormone-releasing factor (swine), acetate
MF: $C_{59}H_{84}N_{18}O_{14} \bullet XC_2H_4O_2$
FW: 1,329.5
Purity: ≥98%
UV/Vis.: λ_{max}: 222, 282 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Goserelin (acetate) is supplied as a crystalline solid. A stock solution may be made by dissolving the goserelin (acetate) in the solvent of choice, which should be purged with an inert gas. Goserelin (acetate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of goserelin (acetate) in ethanol is approximately 0.25 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of goserelin (acetate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of goserelin (acetate) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Goserelin is a synthetic gonadotropin-releasing hormone (GNRH) agonist that binds to the GNRH receptor (GNRHR; K_i = 1.6 nM in CHO cells expressing the human receptor).[1] It binds to mouse pituitary αT3-1 cells and human placenta (K_ds = 2 and 580 nM, respectively) and increases intracellular calcium in αT3-1 cells.[2] Goserelin induces testosterone production *in vitro* within 4 h in rat Leydig cells (ED_{50} = 83 nM) but decreases testosterone plasma level *in vivo* in rats over a period of 2 to 24 weeks.[3,4] It inhibits tumor growth in a DU145 human prostate carcinoma mouse xenograft model when administered at a dose of 100 µg per day.[5] Formulations containing goserelin have been used in the treatment of hormone-dependent breast and prostate cancers, as well as endometriosis and uterine fibroids.

References

1. Nederpelt, I., Georgi, V., Schiele, F., *et al. Br. J. Pharmacol.* **173(1)**, 128-141 (2016).
2. Chatzaki, E., Bax, C.M., Eidne, K.A., *et al. Cancer Res.* **56(9)**, 2059-2065 (1996).
3. Sullivan, M.H. and Cooke, B.A. *Biochem. J.* **218(2)**, 621-624 (1984).
4. Ward, J.A., Furr, B.J., Valcaccia, B., *et al. J. Androl.* **10(6)**, 478-486 (1989).
5. Dondi, D., Moretti, R.M., Montagnani, M.M., *et al. Int. J. Cancer* **76(4)**, 506-511 (1998).

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