Product data sheet



MedKoo Cat#: 100420			
Name: Goserelin Acetate			
CAS#: 145781-92-6 (acetate)			
Chemical Formula: C ₆₁ H ₈₈ N ₁₈ O ₁₆			
Molecular Weight: 1329.485			
Product supplied as:	Powder	0=<"\"	
Purity (by HPLC):	\geq 98%		
Shipping conditions	Ambient temperature		
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.		
	In solvent: -80°C 3 months; -20°C 2 weeks.		



1. Product description:

Goserelin is a synthetic decapeptide analog of luteinizing hormone-releasing hormone (LHRH) with antineoplastic activity. Goserelin binds to and activates pituitary gonadotropin releasing hormone (GnRH) receptors. Prolonged administration of goserelin inhibits the secretion of pituitary gonadotropin, thereby decreasing levels of testosterone (in males) and estradiol (in females). Administration of this agent in a depot formulation may result in the regression of sex hormone-sensitive tumors and a reduction in sex organ size and function.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	29.0	21.81

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	0.75 mL	3.76 mL	7.52 mL
5 mM	0.15 mL	0.75 mL	1.50 mL
10 mM	0.08 mL	0.38 mL	0.75 mL
50 mM	0.02 mL	0.08 mL	0.15 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Zhang N, Qiu J, Zheng T, Zhang X, Hua K, Zhang Y. Goserelin promotes the apoptosis of epithelial ovarian cancer cells by upregulating forkhead box O1 through the PI3K/AKT signaling pathway. Oncol Rep. 2018 Mar;39(3):1034-1042. doi: 10.3892/or.2017.6159. Epub 2017 Dec 15. PMID: 29286125; PMCID: PMC5802025.

In vivo study

1. Zhang N, Qiu J, Zheng T, Zhang X, Hua K, Zhang Y. Goserelin promotes the apoptosis of epithelial ovarian cancer cells by upregulating forkhead box O1 through the PI3K/AKT signaling pathway. Oncol Rep. 2018 Mar;39(3):1034-1042. doi: 10.3892/or.2017.6159. Epub 2017 Dec 15. PMID: 29286125; PMCID: PMC5802025.

7. Bioactivity

Biological target:

Goserelin acetate (ICI-118630 acetate) functions as a GnRH agonist.

In vitro activity

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As shown in Fig. 6A, FOXO1 expression was significantly increased (P<0.05) and the goserelin-mediated promotion of apoptosis was abrogated by FOXO1-siRNA (P<0.05; Fig. 6C). As FOXO1 is a downstream target of the PI3K/AKT signaling pathway, the expression of AKT/p-AKT was analyzed. As shown in Fig. 6B, goserelin downregulated p-AKT (Ser473) expression. Meanwhile, the expression of FOXO1 was increased by AKT-siRNA (P<0.05; Fig. 6D). Taken together, these data suggest that goserelin may promote EOC cell apoptosis by upregulating FOXO1 through the PI3K/AKT signaling pathway.

Reference: Oncol Rep. 2018 Mar;39(3):1034-1042. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5802025/

In vivo activity

In vivo images of subcutaneous xenograft tumors in nude mice revealed that the subcutaneous xenograft tumor model was constructed successfully (Fig. 7A). TUNEL staining showed that goserelin significantly increased the proportion of apoptotic cells in the subcutaneous xenograft tumors (P<0.05; Fig. 7B and C). In the goserelin group, p-AKT expression was significantly lower, while the expression of FOXO1 and GnRHR were significantly increased compared with the NS group (P<0.05; Fig. 7B and D).

Reference: Oncol Rep. 2018 Mar;39(3):1034-1042. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5802025/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.