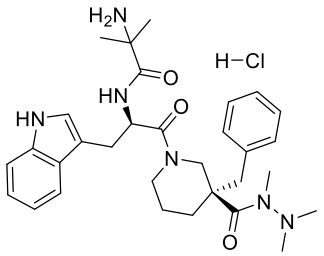
Product data sheet

MedKoo Cat#: 200230 Name: Anamorelin HCl CAS#: 861998-00-7 (HCl) Chemical Formula: $C_{31}H_{43}ClN_6O_3$ Molecular Weight: 583.16	
Product supplied as:	Powder
Purity (by HPLC):	≥ 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:

Anamorelin, also known as RC-1291 or ONO-7643, is the orally bioavailable, small-molecule ghrelin mimetic with appetite-stimulating and anabolic activities. Anamorelin binds to and stimulates the growth hormone secretagogue receptor (GHSR) centrally, thereby mimicking the appetite-stimulating and growth hormone-releasing effects of grhelin. Stimulation of GHSR may also reduce the production of the pro-inflammatory cytokines TNF-alpha and interleukin-6, which may play a direct role in cancer-related loss of appetite.

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	28.0	48.01

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.71 mL	8.57 mL	17.15 mL
5 mM	0.34 mL	1.71 mL	3.43 mL
10 mM	0.17 mL	0.86 mL	1.71 mL
50 mM	0.03 mL	0.17 mL	0.34 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. Pietra C, Takeda Y, Tazawa-Ogata N, Minami M, Yuanfeng X, Duus EM, Northrup R. Anamorelin HCl (ONO-7643), a novel ghrelin receptor agonist, for the treatment of cancer anorexia-cachexia syndrome: preclinical profile. J Cachexia Sarcopenia Muscle. 2014 Dec;5(4):329-37. doi: 10.1007/s13539-014-0159-5. Epub 2014 Sep 30. PMID: 25267366; PMCID: PMC4248409.

In vivo study

1. Pietra C, Takeda Y, Tazawa-Ogata N, Minami M, Yuanfeng X, Duus EM, Northrup R. Anamorelin HCl (ONO-7643), a novel ghrelin receptor agonist, for the treatment of cancer anorexia-cachexia syndrome: preclinical profile. J Cachexia Sarcopenia Muscle. 2014 Dec;5(4):329-37. doi: 10.1007/s13539-014-0159-5. Epub 2014 Sep 30. PMID: 25267366; PMCID: PMC4248409.
2. Northrup R, Kuroda K, Duus EM, Barnes SR, Cheatham L, Wiley T, Pietra C. Effect of ghrelin and anamorelin (ONO-7643), a selective ghrelin receptor agonist, on tumor growth in a lung cancer mouse xenograft model. Support Care Cancer. 2013 Sep;21(9):2409-15. doi: 10.1007/s00520-013-1800-0. Epub 2013 Apr 12. PMID: 23579947; PMCID: PMC3728440.

7. Bioactivity

Biological target:

Anamorelin (RC-1291) hydrochloride is a potent ghrelin receptor agonist with EC50 value of 0.74 nM in the FLIPR assay.

Product data sheet

In vitro activity

In the FLIPR assay, ghrelin and ANAM showed significant agonist activity on the ghrelin receptor (Fig. 2a), with EC50 values of 0.67 nM (95 % confidence interval [CI] 0.60–0.76) and 0.74 nM (95 % CI 0.50–1.12), respectively. No significant antagonist activity was observed with ANAM at concentrations of up to 1,000 nM. In the binding experiments, ghrelin and ANAM bound to the ghrelin receptor (Fig. 2b) with a binding affinity constant (Ki) of 0.58 nM (95 % CI 0.51–0.66) and 0.70 nM (95 % CI 0.55–0.96), respectively.

Reference: J Cachexia Sarcopenia Muscle. 2014 Dec; 5(4): 329–337. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4248409/

In vivo activity

Over the treatment period, animals administered anamorelin at 10 and 30 mg/kg/day showed a statistically significant increase in their percentage of mean BW (11.7 % ± 1.26 and 14.4 % ± 1.08, respectively) compared with controls (7.6 % ± 0.99; $p < 0.01$ versus 10 mg/kg and $p < 0.001$ versus 30 mg/kg). Mice administered 3 mg/kg anamorelin did not show a statistically significant increase in BW compared with control animals (9.1 % ± 0.97; $p > 0.05$).

Reference: Support Care Cancer. 2013; 21(9): 2409–2415. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3728440/

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.