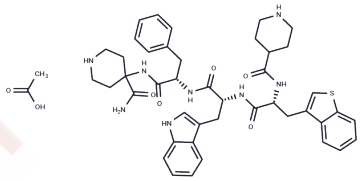
# Data Sheet (Cat.No.T39236)

TargetMol

## Relamorelin acetate

### Chemical Properties



CAS No. : 1809080-14-5

Formula: C45H54N8O7S

Molecular Weight: 851.04

Storage: Keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

### Biological Description

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| Description | Relamorelin (RM-131) acetate is a pentapeptide ghrelin analog that acts as a selective agonist for the ghrelin/growth hormone secretagogue receptor (GHSR). It exhibits a high affinity for the GHS-1a receptor, with a Ki value of 0.42 nM. Notably, Relamorelin acetate can cross the blood-brain barrier and target the central nervous system. This compound effectively increases growth hormone levels and promotes faster gastric emptying. Due to these properties, Relamorelin acetate holds promise for its potential applications in research related to cachexia, gastroparesis, and gastric/intestinal dysmobility disorders [4] [5]. |
| Targets(IC50) | GHSR |
| In vitro | Relamorelin acetate, also known as RM-131, exhibits approximately threefold higher affinity for the GHS-1a receptor (K i = 0.42 nM) compared to native ghrelin (K i = 1.12 nM). Furthermore, it is sixfold more potent (EC 50 = 0.71 nM) in activating the GHS-1a receptor than native ghrelin (EC 50 = 4.2 nM), as demonstrated by in vitro calcium mobilization assays[1]. |
| In vivo | Relamorelin (RM-131; 50-500 nmol/kg/day; subcutaneously [s.c.] via continuous infusion for 5 days) acetate effectively reduces the loss of both body and fat mass. At a dosage of 500 nmol/kg/day administered subcutaneously through continuous infusion over a 5-day period, relamorelin acetate notably enhances food consumption and promotes weight gain in rats[1]. Furthermore, RM-131 (250-500 nmol/kg; single s.c. dose) acetate has been demonstrated to acutely increase food intake in wild-type mice, but this effect is not observed in mice lacking growth hormone secretagogue receptor (GHR) [2]. This research utilized F344/NTacfBR male rats implanted with tumors as the animal model[1], with dosages administered at 50 and 500 nmol/kg/day, subcutaneously, at a continuous infusion rate of 0.5 μL/h for 5 days. The outcomes revealed a significant increment in food intake (comparing tumor/saline at 41.4g with tumor/BIM-28131 at 72.5g) and an increase in weight (from tumor/saline -10.3% to tumor/BIM-28131 +19.5%).<br><br>Relamorelin (RM-131; 50-500 nmol/kg/day; subcutaneously [s.c.] via continuous infusion for 5 days) acetate reduces body and fat mass loss, enhances food consumption, and promotes weight gain in rats at 500 nmol/kg/day subcutaneously for 5 days[1]. At 250-500 nmol/kg, a single s.c. dose increases food intake in wild-type mice |

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| In vivo | but not in GHR-deficient mice[2]. In F344/NTacfBR male rats with tumors, administered 50-500 nmol/kg/day s.c. at 0.5 μL/h for 5 days, food intake increased significantly (tumor/saline 41.4g vs. tumor/BIM-28131 72.5g), as did weight (tumor/saline -10.3% vs. tumor/BIM-28131 +19.5%). |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|---|---|---|---|
| 1 mM | 1.175 mL | 5.8752 mL | 11.7503 mL |
| 5 mM | 0.235 mL | 1.175 mL | 2.3501 mL |
| 10 mM | 0.1175 mL | 0.5875 mL | 1.175 mL |
| 50 mM | 0.0235 mL | 0.1175 mL | 0.235 mL |

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

DeBoer MD, et, al. Ghrelin treatment causes increased food intake and retention of lean body mass in a rat model of cancer cachexia. Endocrinology. 2007 Jun;148(6):3004-12.
Fischer K, et, al. The Pentapeptide RM-131 Promotes Food Intake and Adiposity in Wildtype Mice but Not in Mice Lacking the Ghrelin Receptor. Front Nutr. 2015 Jan 12;1:31.
Zatorski H, et, al. Relamorelin and other ghrelin receptor agonists - future options for gastroparesis, functional dyspepsia and proton pump inhibitors-resistant non-erosive reflux disease. J Physiol Pharmacol. 2017 Dec;68(6):797-805.
Matthew Heckroth, et al. Nausea and Vomiting in 2021: A Comprehensive Update. J Clin Gastroenterol. 2021 Apr 1;55(4):279-299.
Victor Chedid, et al. Relamorelin for the treatment of gastrointestinal motility disorders. Expert Opin Investig Drugs. 2017 Oct;26(10):1189-1197.