

Product Data Sheet

Product Name: NNC0165-1273 acetate

Cat. No.: GC79307

Chemical Properties

Cas. No.

Formula $C_{186}H_{280}N_{54}O_{54} \cdot xC_2H_4O_2$ M.Wt 4136.54

Solubility DMSO: 2 mg/mL (Need ultrasonic) Storage Sealed storage, away from moisture

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure

Ile-Lys-Pro-Glu-Ala-Pro-Gly-Glu-Asp-
Ala-Ser-Pro-Glu-Glu-Leu-Asn-Arg-Tyr-
Tyr-Ala-Ser-Leu-Arg-His-Tyr-Leu-Asn-
Trp-Val-Thr-Arg-Gln- $\{\beta\}$ -homoArg-Tyr-
NH₂ (acetate salt)

Background

NNC0165-1273 acetate is a selective NPY Y2 receptor agonist with a K_i of 2 nM and an EC₅₀ of 5.0 nM. NNC0165-1273 acetate blocks Ghrelin-induced cFos expression. NNC0165-1273 acetate reduces nocturnal food intake, attenuates feeding behavior, induces early satiety, and causes dose-

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dependent decreases in body weight and fat mass in diet-induced obese mice. When used in combination with Semaglutide, NNC0165-1273 acetate reduces preference for high-fat diet, promotes body weight loss, and produces sustained weight loss effects in diet-induced obese rats. NNC0165-1273 acetate can be used in studies related to diet-induced obesity [1] [2] [3].

In Vivo, NNC0165-1273 (0.03-1 $\mu\text{mol/kg/d}$; subcutaneous injection; continuous infusion; 14 days) acetate causes dose-dependent reductions in food intake, body weight, and fat mass in diet-induced obese male C57BL/6 mice, with the highest dose reducing fat mass by approximately 31%^[1]. NNC0165-1273 (0.04-1 $\mu\text{mol/kg}$; subcutaneous injection; single administration) acetate potentially inhibits ghrelin-induced feeding behavior in healthy male C57BL/6 mice, with the 0.04 $\mu\text{mol/kg}$ dose almost completely blocking the orexigenic effect of ghrelin at 1 and 2 hours^[1]. Combined administration of NNC0165-1273 (0.08 $\mu\text{mol/kg/d}$; osmotic minipump; continuous infusion) acetate and Semaglutide achieves a maximum body weight loss of 23.9% in diet-induced obese male Wistar rats, an effect superior to that observed with Roux-en-Y gastric bypass surgery in previous studies^[3]. Co-administration of NNC0165-1273 (0.04 $\mu\text{mol/kg/d}$; subcutaneous injection; continuous administration) acetate, NNC0165-0020 and Semaglutide reduces the body weight of male Wistar rats with high-fat diet-induced obesity by a maximum of 20.5% and persistently decreases their preference for high-fat diet^[2].

In Vitro, NNC0165-1273 acetate exhibits high selectivity for the Y2 receptor (>5000-fold over the Y1 receptor, 1250-fold over the Y4 receptor, and 650-fold over the Y5 receptor)^[1]. NNC0165-1273 acetate is a highly selective Y2 receptor agonist, with a binding K_i of 2.0 nM and a functional EC_{50} of 5.0 nM for the Y2 receptor, and exhibits low activity against Y1, Y4 and Y5 receptors^[2]. The in vitro half-life of NNC0165-1273 acetate (570 min) is 2.85 times longer than that of PYY3-36, indicating greater metabolic stability^[2].

References:

- [1]. Jones ES, et al. Modified Peptide YY Molecule Attenuates the Activity of NPY/AgRP Neurons and Reduces Food Intake in Male Mice. *Endocrinology*. 2019 Nov 01;160(11):2737-2747.
- [2]. Oertel M, et al. GLP-1 and PYY for the treatment of obesity: a pilot study on the use of agonists and antagonists in diet-induced rats. *Endocrine connections*. 2024 Mar 01;13(3):e230398.
- [3]. Oertel M, et al. Effects of a combinatory treatment with semaglutide and a NPY Y2 receptor

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selective PYY 3-36 analogue in diet-induced obese rats: surpassing bariatric surgery?[C]//Endocrine Abstracts. Bioscientifica, 2023, 90.

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