

Product Data Sheet

Product Name: Cortagine

Cat. No.: GC50455

Chemical Properties

Cas. No.

Formula C192H323N55O63S

M.Wt 4442.06

Solubility Soluble in DMSO

Storage Store at -20°C

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 Glp-Gly-Pro-Pro-Ile-Ser-Ile-Asp-Leu-Ser-Leu-Glu-Leu-Leu-Arg-Glu-Val-Leu-Glu-Met-Glu-Arg-Ala-Glu-Gln-Leu-Ala-Gln-Gln-Ala-Ala-Asn-Asn-Arg-Leu-Leu-Leu-Asp-Thr-Ala-NH₂

Protocol

Cell experiment [1]:

Cell lines BON-1N cells

Preparation Method BON-1N cells (5×10^5) grown in 12-well plates were treated with increasing concentrations of Cortagine (0.1 nM~1 μM) for 30 min in the presence of 3-isobutyl-1-methyl-xanthine (1 mM). Intracellular cAMP content of cell extracts was measured using a calibrated standard in an EIA kit.

Reaction Conditions 0.1 nM~1 μM; 30 min

Applications Cortagine induced a concentration-dependent cAMP increase.

Caution: Product has not been fully validated for medical applications. For research use only.

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Animal experiment [2]:

Animal models Sprague-Dawley rats

The conscious rats were injected with vehicle or Cortagine at 3, 6, 10µg/kg. Preparation Method Fecal pellet output (FPO) was monitored every 15min for 1h after the treatments.

Dosage form 3, 6, and 10µg/kg; i.p.

Applications Cortagine induced a dose-related increase in pellet output per hour.

References:

[1] Wu S V, Yuan P Q, Lai J, et al. Activation of Type 1 CRH receptor isoforms induce serotonin release from human carcinoid BON-1N cells: an enterochromaffin cell model [J]. Endocrinology, 2011, 152(1): 126-137.

[2] Larauche M, Gourcerol G, Wang L, et al. Cortagine, a CRF1 agonist, induces stresslike alterations of colonic function and visceral hypersensitivity in rodents primarily through peripheral pathways [J]. American journal of physiology Gastrointestinal and liver physiology, 2009, 297(1): 215-227.

Background

Cortagine is a kind of corticotropin-releasing factor receptor subtype 1 (CRF1) peptidic agonist, with an IC₅₀ of 2.6nM and an EC₅₀ of 0.47nM for rCRF1 [1]. Cortagine has a high selectivity with strong affinity for CRF1 and a very low binding preference for CRF2 [2]. The preclinical models of behavior shows that Cortagine elicits anxiogenic and antidepressant-like effects [2].

Cortagine (0.1nM~1µM; 30min) induced a concentration-dependent cAMP increase in BON-1N cells [3].

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Cortagine (30, 100, 300ng; i.c.v.) increased anxiety-like behavior and reduced locomotor activity in C57BL/6J mice [1]. Cortagine (3, 6, and 10µg/kg; i.p.) induced a dose-related increase in fecal pellet output in conscious Sprague-Dawley rats [4].

References:

- [1] Tezval H, Jahn O, Todorovic C, et al. Cortagine, a specific agonist of corticotropin-releasing factor receptor subtype 1, is anxiogenic and antidepressive in the mouse model [J]. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101(25): 9468-9473.
- [2] Farrokhi C B, Tovote P, Blanchard R J, et al. Cortagine: behavioral and autonomic function of the selective CRF receptor subtype 1 agonist [J]. CNS drug reviews, 2007, 13(4): 423-443.
- [3] Wu S V, Yuan P Q, Lai J, et al. Activation of Type 1 CRH receptor isoforms induces serotonin release from human carcinoid BON-1N cells: an enterochromaffin cell model [J]. Endocrinology, 2011, 152(1): 126-137.
- [4] Larauche M, Gourcerol G, Wang L, et al. Cortagine, a CRF1 agonist, induces stresslike alterations of colonic function and visceral hypersensitivity in rodents primarily through peripheral pathways [J]. American journal of physiology Gastrointestinal and liver physiology, 2009, 297(1): 215-227.

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