

Product Data Sheet

Product Name: Hemokinin 1 (mouse)

Cat. No.: GC13239

Chemical Properties

Cas. No. 208041-90-1

Chemical Name (S,Z)-2-((Z)-((6S,7Z,9S,10Z,12S,13Z,15S,16Z,18S)-1,6-diamino-12,18-bis(3-guanidinopropyl)-7,10,13,16,19-pentahydroxy-15-((R)-1-hydroxyethyl)-9-(hydroxymethyl)-1-imino-2,8,11,14,17-pentaazanonadeca-7,10,13,16-tetraen-19-ylidene)amino)-N'-((5S,6Z,8S,9Z,12Z

SMILES CC(C[C@@]/N=C(O)/C/N=C(O)/[C@]/N=C(O)/[C@]/N=C(O)/[C@]/N=C(O)/[C@]/N=C(O)/[C@]/N=C(O)/[C@](N)([H])CCCNC(N)=N)([H])CO)([H])CCCNC(N)=N)([H])[C@@](O)([H])C([H])CCCNC(N)=N)([H])CCC(O)=N)([H])CC1=CC=CC=C1)([H])CC2=CC=C(O)C=C2)(

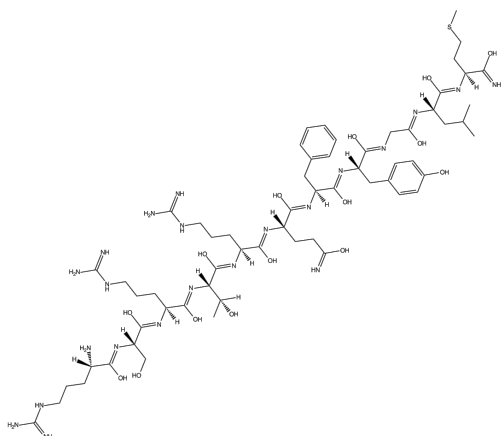
Formula $C_{61}H_{100}N_{22}O_{15}S$ M.Wt 1413.65

Solubility Soluble to 2 mg/ml in sterile water 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



Protocol

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

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**Animal
experiment:**

Male albino Wistar Rats weighing 400-450 g are used throughout the study. On the day of the experiment, rats are anaesthetized with urethane (1.2 g/kg, s.c.). Following tracheotomy and placement of a tracheal cannula (PE 205), the left jugular vein is cannulated (PE50) for SP or Hemokinin 1 (mouse) administrations. The body temperature is maintained constant ($36.5 \pm 0.5^\circ\text{C}$) by a thermoregulated heating lamp. About 1 h elapsed between the animal set-up and the start of the experiments, thereafter each animal receive atropine ($1.4 \mu\text{mol/kg}$ i.v. as bolus followed by infusion of $1.4 \mu\text{M}$ in a volume of $300 \mu\text{L/h}$) and 10 min later the vehicle (saline) and increasing doses (0.5 log units) of SP or Hemokinin 1 (mouse) (0.01, 0.03, 0.1, 0.3, 1, 3, 10, 30, and 100 nmol/kg); the first five doses are administered at 20 min intervals, whereas 30 min elapsed between each of the last four doses. Atropine pretreatment is performed in order to minimize the influence of cholinergic secretory reflexes in response to the placement of the cotton swab in the rat's oral cavity for the measurement of salivary secretion induced by SP or Hemokinin 1 (mouse).

References:

[1]. Francesca Bellucci, et al. Pharmacological profile of the novel mammalian tachykinin, hemokinin 1. Br J Pharmacol. 2002 Jan; 135(1): 266-274

Background

Hemokinin 1 (mouse) is a selective agonist of neurokinin-1 receptor, with K_i of 0.175 nM and 560 nM for human NK1 receptor and human NK2 receptor, respectively.

Hemokinin 1 (mouse) (1 nM-3 μM) produces concentration-dependent contraction of RUB averaging $66 \pm 3\%$ ($n=6$) of the maximal contraction produced by KCl (80 mM). Hemokinin 1 (mouse) (10 nM-10 μM) induces a quickly-developing contractile responses of GPI, as does the tachykinin NK3 receptor selective agonist senktide or neurokinin B (NKB). Hemokinin 1 (mouse) induces full agonist responses but with a 500 fold lower potency as compared to NKB[1].

Hemokinin 1 (mouse) (0.01-100 nmol/kg i.v., $n=10$) induces a dose-related hypotension that is maximal at the dose of 10 nmol/kg . For systolic blood pressure (SBP), the ED_{50} value is 0.2 nmol/kg (0.1-0.4 nmol/kg) for Hemokinin 1 (mouse). For diastolic blood pressure (DBP), the ED_{50} value is 0.1

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nmol/kg (0.07-0.2 nmol/kg) for Hemokinin 1 (mouse). Hemokinin 1 (mouse) (0.1-100 nmol/kg, i.v.) induces a dose-related salivary secretion in atropine-pretreated rats[1].

Reference:

[1]. Francesca Bellucci, et al. Pharmacological profile of the novel mammalian tachykinin, hemokinin 1. Br J Pharmacol. 2002 Jan; 135(1): 266-274

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