Hemokinin 1 (mouse)

Cat. No.: HY-P1030

CAS No.: 208041-90-1

Molecular Formula: $C_{61}H_{100}N_{22}O_{15}S$

Molecular Weight: 1413.65

Sequence Shortening: RSRTRQFYGLM-NH2

Target: Neurokinin Receptor

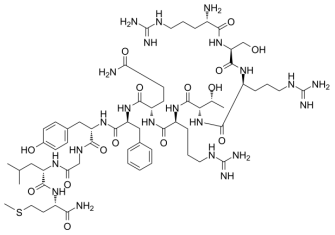
Pathway: GPCR/G Protein; Neuronal Signaling

Storage: Stored under nitrogen, away from moisture

Powder -80°C 2 years

-20°C 1 year

* In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (70.74 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	0.7074 mL	3.5369 mL	7.0739 mL
	5 mM	0.1415 mL	0.7074 mL	1.4148 mL
	10 mM	0.0707 mL	0.3537 mL	0.7074 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

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.

IC_{50} & Target

Ki: 0.175 nM (Human NK1 receptor), 560 nM (Human NK2 receptor)[1]

In Vitro

Hemokinin 1 (mouse) (1 nM-3 μM) produces concentration-dependent contraction of RUB averaging 66±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].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

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 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].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Animal Administration [1]

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±0.5°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 μmol/kg i.v. as bolus followed by infusion of 1.4 μM in a volume of 300 μL/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).

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

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

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA