Pentagastrin

Cat. No.: HY-A0261

CAS No.: 5534-95-2

Molecular Formula: $C_{37}H_{49}N_7O_9S$

Molecular Weight: 767.89

Target: Cholecystokinin Receptor

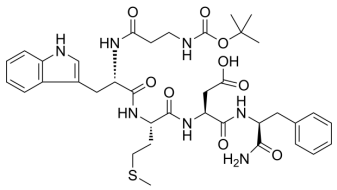
Pathway: GPCR/G Protein; Neuronal Signaling

Storage: Sealed storage, away from moisture and light

Powder -80°C 2 years

-20°C 1 year

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (162.78 mM; Need ultrasonic)

H_2O : < 0.1 mg/mL (ultrasonic) (insoluble)

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1 mg	5 mg	10 mg
1 mM	1.3023 mL	6.5113 mL	13.0227 mL
5 mM	0.2605 mL	1.3023 mL	2.6045 mL
10 mM	0.1302 mL	0.6511 mL	1.3023 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (2.71 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (2.71 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Pentagastrin (ICI-50123) is a potent, selective Cholecystokinin B (CCK_B) receptor antagonists with IC_{50} values of 11 nM and 1100 nM for CCK_B and CCK_A, respectively. Pentagastrin enhances gastric mucosal defense mechanisms against acid and protects the gastric mucosa from experimental injury[1].[2].

IC_{50} & Target

CCKBR

In Vitro

Pentagastrin (ICI-50123) (0.1-100 μM; GH_3-cells) increases intracellular Ca^{2+} in a dose-dependent manner with a maximal increase of 2.77-fold[1].

	Pentagastrin (ICI-50123) (0.1-100 μM; GH_3-cells) bounds dose dependently to GH3 cells[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Pentagastrin (ICI-50123) (80 μg/kg/h; i.v.; male Sprague-Dawley rats) protects rat gastric mucosa from acidified aspirin injury [2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Sprague-Dawley rats (approximately 200 g)[2]
Dosage:	80 μg/kg/h
Administration:	Intravenous injection
Result:	Protected rat gastric mucosa from acidified aspirin injury. Induced a hyperaemic response to luminal acid challenge, increased mucus gel thickness, and elevated pH_i during acid challenge.

CUSTOMER VALIDATION

- Front Mol Biosci. 2021 May 17;8:661424.

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REFERENCES

[1]. Smith AJ, et al. Characterisation of CCKB receptors on GH3 pituitary cells: receptor activation is linked to Ca2+ mobilisation. Eur J Pharmacol. 1994 Apr 15;267(2):215-23.

[2]. Tanaka S, et al. Pentagastrin gastroprotection against acid is related to H2 receptor activation but not acid secretion. Gut. 1998 Sep;43(3):334-41.

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