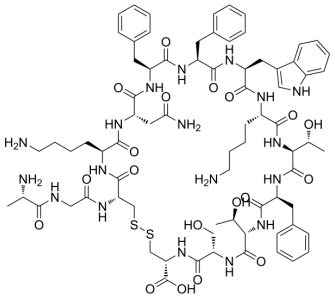
Cyclic somatostatin



Cat. No.: HY-P0084

CAS No.: 38916-34-6

Molecular Formula: $C_{76}H_{104}N_{18}O_{19}S_2$

Molecular Weight: 1637.88

Sequence: Ala-Gly-Cys-Lys-Asn-Phe-Phe-Trp-Lys-Thr-Phe-Thr-Ser-Cys (Disulfide bridge: Cys3-Cys 14)

Sequence Shortening: AGCKNFFWKTFTSC (Disulfide bridge: Cys3-Cys14)

Target: Others

Pathway: Others

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

H_2O : 100 mg/mL (61.05 mM; Need ultrasonic)
DMF : 100 mg/mL (61.05 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	0.6105 mL	3.0527 mL	6.1055 mL
	5 mM	0.1221 mL	0.6105 mL	1.2211 mL
	10 mM	0.0611 mL	0.3053 mL	0.6105 mL

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

BIOLOGICAL ACTIVITY

Description

Cyclic somatostatin (SRIF-14) is a growth hormone-release inhibiting factor used in the research of severe, acute hemorrhages of gastroduodenal ulcers. Cyclic somatostatin is a neuropeptide co-stored with acetylcholine in the cardiac parasympathetic innervation, exerts influences directly on contraction of ventricular cardiomyocytes. Cyclic somatostatin inhibits the contractile response of isoprenaline with an IC_{50} value of 13 nM. Cyclic somatostatin can be used for the research of cardiovascular disease[1][2][3].

IC_{50} & Target

IC50: 13 nM (contractile response of isoprenaline)[1]

In Vitro

Cyclic somatostatin (0-10 μM; 15 min) dose-dependently inhibits the contractile response to isoprenaline in rat ventricular

	cardiomyocytes with an IC_{50} value of? 13 nM[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Cyclic somatostatin (5 μg/kg; i.v. per hour once for 18-22 hours) affects visceral metabolism in ruminants[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Polypay sheeps[3]
Dosage:	5 μg/kg
Administration:	Intravenous injection; 5 μg/kg per hour once; for 18-22 hours
Result:	Decreased net portal-drained viscera release of glucose, a-amino N, ammonia N, b-hydroxybutyrate, oxygen consumption, liver oxygen consumption, and total splanchnic a-amino N release and oxygen consumption. Increased lactate release and net hepatic glucose output.

REFERENCES

[1]. Murray F, et al. Positive and negative contractile effects of somatostatin-14 on rat ventricular cardiomyocytes. J Cardiovasc Pharmacol. 2001 Mar;37(3):324-32.

[2]. Bell D, et al. SRIF receptor subtype expression and involvement in positive and negative contractile effects of somatostatin-14 (SRIF-14) in ventricular cardiomyocytes. Cell Physiol Biochem. 2008;22(5-6):653-64.

[3]. https://pubmed.ncbi.nlm.nih.gov/9374319/

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