Sincalide

Cat. No.: HY-P0093

CAS No.: 25126-32-3

Molecular Formula: $C_{49}H_{62}N_{10}O_{16}S_3$

Molecular Weight: 1143.27

Sequence Shortening: D-{SO3H-Tyr}-MGWMDF-NH2

Target: Cholecystokinin Receptor; Apoptosis; PI3K; Akt

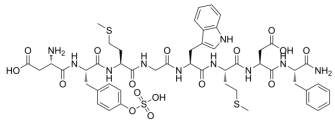
Pathway: GPCR/G Protein; Neuronal Signaling; Apoptosis; PI3K/Akt/mTOR

Storage: Sealed storage, away from moisture and light, under nitrogen

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, under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 50 mg/mL (43.73 mM; ultrasonic and adjust pH to 11 with NH3·H2O)

DMF : 50 mg/mL (43.73 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	0.8747 mL	4.3734 mL	8.7468 mL
	5 mM	0.1749 mL	0.8747 mL	1.7494 mL
	10 mM	0.0875 mL	0.4373 mL	0.8747 mL

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

In Vivo

1. Add each solvent one by one: 10% DMF >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (2.19 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Sincalide (Cholecystokinin octapeptide, CCK□8) is a rapid-acting amino acid polypeptide hormone analogue of cholecystokinin (CCK) for intravenous use in postevacuation cholecystography. CCK□8 is a major bioactive segment of CCK that retains most of the biological activities of CCK. CCK□8 can promote gallbladder contraction by injection and helps diagnose gallbladder and pancreas disorders. CCK□8 can increase bile secretion, cause the gallbladder to contract and relax the sphincter of Oddi, resulting in bile drainage into the duodenum. CCK□8 is a major bioactive segment of CCK that retains most of the biological activities of CCK[1][2][3].

In Vitro

Sincalide (Cholecystokinin octapeptide, CCK□8), as a novel cardiovascular hormone, has a significant inhibitory effect on myocardial fibrosis in noninfarcted areas. CCK□8 also plays a positive role in fighting inflammation, apoptosis and collagen

deposition. CCK8 protects H9c2 cardiomyoblasts from Ang II induced apoptosis partly via activation of the CCK1 receptor and the phosphatidyqinositol 3 kinase/protein kinase B (PI3K/Akt) signaling pathway[3].

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

Cell Viability Assay[3]

Cell Line:	H9c2 cells
Concentration:	0.001, 0.01, 0.1, 1, 10, or 100 μmol/L
Incubation Time:	24 h
Result:	Attenuated Ang II induced toxicity in H9c2 cells

Apoptosis Analysis[3]

Cell Line:	H9c2 cells
Concentration:	0.001, 0.01, 0.1, 1, 10, or 100 μmol/L
Incubation Time:	24 h
Result:	Decreased apoptotic cells, and prevented Ang II induced cytotoxicity that involves modulation of the PI3K/Akt pathway.

Western Blot Analysis[3]

Cell Line:	H9c2 cells
Concentration:	0.001, 0.01, 0.1, 1, 10, or 100 μmol/L
Incubation Time:	24 h
Result:	Expressed the protein and mRNAs of CCK and both its receptors in H9c2 cells.

RT-PCR[3]

Cell Line:	H9c2 cells
Concentration:	0.001, 0.01, 0.1, 1, 10, or 100 μmol/L
Incubation Time:	24 h
Result:	Increased the protein and mRNA expression levels of CCK and decreased CCK 1 receptor expression levels at both the protein and mRNA levels with Ang II stimulation markedly.

In Vivo

Sincalide (Cholecystokinin octapeptide, CCK8) (i.p.; 50 μg/kg/d; for 4 weeks) alleviates fibrosis in the noninfarcted regions and delay the left ventricular remodeling and the progress of heart failure in a MI rat model[4].

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

Animal Model:	MI rat model[4]
Dosage:	50 μg/kg
Administration:	i.p.; 50 μg/kg/d; for 4 weeks
Result:	Had significant inhibitory effect on myocardial fibrosis in noninfarcted areas.

CUSTOMER VALIDATION

- Antioxidants (Basel). 2023, 12(1), 100.
- Biomed Pharmacother. 2019 May 25;116:109001.
- Immunogenetics. 2022 Sep 3.

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REFERENCES

[1]. Can Wang, et al. Cholecystokinin octapeptide reduces myocardial fibrosis and improves cardiac remodeling in post myocardial infarction rats. Int J Biochem Cell Biol. 2020 Aug;125:105793.

[2]. Can Wang, et al. Protective effect of cholecystokinin octapeptide on angiotensin II-induced apoptosis in H9c2 cardiomyoblast cells. J Cell Biochem. 2020 Jul;121(7):3560-3569.

[3]. Maher KA et al. Kinevac (sincalide for injection)/Squibb Diagnostics. Gastroenterol Nurs. 1991 Oct;14(2):98-100.

[4]. Ziessman HA. Sincalide: A Review of Clinical Utility, Proper Infusion Methodology, and Alternative Cholecystogogues. J Nucl Med Technol. 2019 Sep;47(3):210-212.

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