Sincalide ammonium

Cat. No.: HY-P0093A

CAS No.: 70706-98-8

Molecular Formula: $C_{49}H_{65}N_{11}O_{16}S_3$

Molecular Weight: 1160.30

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

Target: Cholecystokinin Receptor; Apoptosis; PI3K; Akt

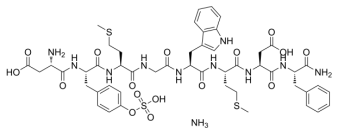
Pathway: GPCR/G Protein; Neuronal Signaling; Apoptosis; PI3K/Akt/mTOR

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 : 33.33 mg/mL (28.73 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	0.8618 mL	4.3092 mL	8.6185 mL
	5 mM	0.1724 mL	0.8618 mL	1.7237 mL
	10 mM	0.0862 mL	0.4309 mL	0.8618 mL

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

BIOLOGICAL ACTIVITY

Description

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

In Vitro

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

- Biomed Pharmacother. 2019 Aug:116:109001.
- Antioxidants (Basel). 2022 Dec 31;12(1):100.
- Immunogenetics. 2023 Feb;75(1):17-25.

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REFERENCES

[1]. 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.

[2]. 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.

[3]. Maher KA. 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.

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