Crustacean Cardioactive Peptide

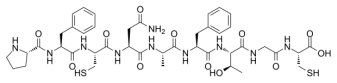
Cat. No.: HY-P0303

CAS No.: 309247-84-5

Molecular Formula: $C_{42}H_{58}N_{10}O_{12}S_2$

Molecular Weight: 959.1

Sequence: Pro-Phe-Cys-Asn-Ala-Phe-Thr-Gly-Cys



Sequence Shortening: PFCNAFTGC

Target: Others

Pathway: Others

Storage: Sealed storage, away from moisture

Powder -80°C 2 years

-20°C 1 year

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

SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (52.13 mM; Need ultrasonic)

H_2O : 0.67 mg/mL (0.70 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.0426 mL	5.2132 mL	10.4264 mL
5 mM	0.2085 mL	1.0426 mL	2.0853 mL
10 mM	0.1043 mL	0.5213 mL	1.0426 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: ≥ 2.5 mg/mL (2.61 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (2.61 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (2.61 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Crustacean Cardioactive Peptide (CCAP) is a highly conserved, amidated cyclic nonapeptide, first isolated from the pericardial organs of the shore crab Carcinus maenas, where it has a role in regulating heartbeat; Crustacean Cardioactive Peptide (CCAP) also modulates the neuronal activity in other arthropods.

In Vitro	Ultrabithorax and Abdominal-A are not necessary for specification of the CCAP-interneurons, but are absolutely required to prevent the death by apoptosis of the CCAP-efferent neurons[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	CCAP, FMRFamide and SALDKNFMRFamide increase the mosquito antennal accessory pulsatile organ (APO) and heart contraction rates, increase hemolymph flow velocity in the antennal space[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Suggs JM, et al. CCAP and FMRFamide-like peptides accelerate the contraction rate of the antennal accessory pulsatile organs (auxiliary hearts) of mosquitoes. J Exp Biol. 2016 Aug 1;219(Pt 15):2388-95.

[2]. Moris-Sanz M, et al. The study of the Bithorax-complex genes in patterning CCAP neurons reveals a temporal control of neuronal differentiation by Abd-B. Biol Open. 2015 Aug 14;4(9):1132-42.

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