

Small Cardioactive Peptide B SCPB

Chemical Properties

CAS No.:	84746-43-0
Formula:	C52H80N14O11S2
Molecular Weight:	1141.41
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).

Biological Description

Description	Small Cardioactive Peptide B (SCPB), a neurally active peptide, stimulates adenylate cyclase activity in particulate fractions of both heart and gill tissues with EC50s of 0.1 and 1.0 μ M, respectively.
In vitro	Small cardioactive peptide B (SCPB) is a neurally active peptide endogenous to Aplysia. Small cardioactive peptide B (SCPB) possesses cardioexcitatory effects in Aplysia and reported a threshold concentration of 0.01 nM for both native and synthetic Small cardioactive peptide B (SCPB) stimulated effects on the isolated heart. Effects of Small Cardioactive Peptide B (SCPB) on the physiology of the isolated heart and gill preparations from the mollusc <i>Aplysia californica</i> were examined. In addition, the effects of Small Cardioactive Peptide B (SCPB) and FMRFamide (Phe-Met-Arg-Phe-NH ₂) on adenylate cyclase activity are compared in particulate fractions of heart and gill tissues, respectively. Small Cardioactive Peptide B (SCPB) is found to exert dose-dependent, reversible changes in cardiac activity when perfused through the isolated heart. The EC50 values effecting changes in heart rate and force of contraction are 0.03 and 0.3 nM, respectively; minimum concentrations found to effect changes in heart rate and force of contraction are normally 0.001 and 1 pM, respectively. When perfused through the isolated gill, Small Cardioactive Peptide B (SCPB) is found to suppress the gill withdrawal response amplitude with a threshold concentration of 0.01 pM and an EC50 value of 0.03 nM. Suppression of the gill withdrawal response amplitude by Small Cardioactive Peptide B (SCPB) is found to be dose dependent and reversible up to a concentration of 1 nM. At higher concentrations, the suppression tended to persist irreversibly. Small Cardioactive Peptide B (SCPB) stimulates adenylate cyclase activity in particulate fractions of both heart and gill tissues with an EC50 of 0.1 and 1.0 μ M, respectively[1].

In vivo	<p>Small cardioactive peptide B (SCPB) is a neurally active peptide endogenous to Aplysia. Small cardioactive peptide B (SCPB) possesses cardioexcitatory effects in Aplysia and reported a threshold concentration of 0.01 nM for both native and synthetic Small cardioactive peptide B (SCPB) stimulated effects on the isolated heart. Effects of Small Cardioactive Peptide B (SCPB) on the physiology of the isolated heart and gill preparations from the mollusc Aplysia californica were examined. In addition, the effects of Small Cardioactive Peptide B (SCPB) and FMRFamide (Phe-Met-Arg-Phe-NH₂) on adenylate cyclase activity are compared in particulate fractions of heart and gill tissues, respectively. Small Cardioactive Peptide B (SCPB) is found to exert dose-dependent, reversible changes in cardiac activity when perfused through the isolated heart. The EC₅₀ values effecting changes in heart rate and force of contraction are 0.03 and 0.3 nM, respectively; minimum concentrations find to effect changes in heart rate and force of contraction are normally 0.001 and 1 pM, respectively. When perfused through the isolated gill, Small Cardioactive Peptide B (SCPB) is found to suppress the gill withdrawal response amplitude with a threshold concentration of 0.01 pM and an EC₅₀ value of 0.03 nM. Suppression of the gill withdrawal response amplitude by Small Cardioactive Peptide B (SCPB) is found to be dose dependent and reversible up to a concentration of 1 nM. At higher concentrations, the suppression tended to persist irreversibly. Small Cardioactive Peptide B (SCPB) stimulates adenylate cyclase activity in particulate fractions of both heart and gill tissues with an EC₅₀ of 0.1 and 1.0 μM, respectively[1].</p>
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Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.876 mL	4.381 mL	8.761 mL
5 mM	0.175 mL	0.876 mL	1.752 mL
10 mM	0.088 mL	0.438 mL	0.876 mL
50 mM	0.018 mL	0.088 mL	0.175 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

1. Cawthorpe DR, et al. The effects of small cardioactive peptide B on the isolated heart and gill of Aplysia californica. Can J Physiol Pharmacol. 1985 Aug;63(8):918-24.

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