

NKH477

Chemical Properties

CAS No. : 138605-00-2

Formula: C₂₇H₄₄ClNO₈

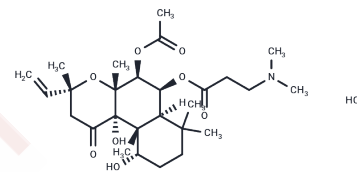
Molecular Weight: 546.09

Storage:

Store at low temperature, Keep away from direct sunlight

Powder: -20°C for 3 years

Actual storage temperature shall be subject to the COA.



Biological Description

Description	NKH477 (Colforsin dapropate hydrochloride) is a derivative of forskolin with antidepressant activity. It inhibits ACh-induced Ca ²⁺ mobilization by acting on ionomycin-sensitive storage sites. NKH477 is an adenylyl cyclase activator with bronchodilatory effects, inhibiting the production of CTL, T-cell proliferation in mixed lymphocyte reactions (MLR), as well as IL-2 production and mitogen responses.
Targets(IC50)	Adenylate cyclase
In vitro	NKH477 (0.1-1.0 μM) inhibits ACh induced contraction in a concentration-dependent manner by attenuating ACh induced Ca ²⁺ mobilization and reducing the sensitivity of the contractile mechanism to Ca ²⁺ . [1]
In vivo	In experimental dogs, intravenous administration of NKH477 (1-30 μg/kg) resulted in an increase in left ventricular dp/dtmax, coronary and femoral blood flow, heart rate, and myocardial oxygen consumption, as well as a decrease in blood pressure in anesthetized dogs. NKH477 is a useful insulin dilator for the treatment of heart failure. [2]

Solubility Information

Solubility	DMSO: 80 mg/mL (146.5 mM), Sonication is recommended. H ₂ O: 10 mg/mL (18.31 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (9.16 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.8312 mL	9.156 mL	18.312 mL
5 mM	0.3662 mL	1.8312 mL	3.6624 mL
10 mM	0.1831 mL	0.9156 mL	1.8312 mL
50 mM	0.0366 mL	0.1831 mL	0.3662 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Shafiq J, et al. Mechanisms of vasodilation induced by NKH477, a water-soluble forskolin derivative, in smooth muscle of the porcine coronary artery. *Circ Res.* 1992 Jul;71(1):70-81.

Liu C, Sun W, Zhu T, et al. Glia maturation factor- β induces ferroptosis by impairing chaperone-mediated autophagic degradation of ACSL4 in early diabetic retinopathy. *Redox Biology.* 2022: 102292.

Hosono M, et al. Cardiovascular and adenylate cyclase stimulant properties of NKH477, a novel water-soluble forskolin derivative. *J Cardiovasc Pharmacol.* 1992 Apr;19(4):625-34.

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