

# PRODUCT INFORMATION



## NKH477 (hydrochloride)

Item No. 11214

CAS Registry No.: 138605-00-2

Formal Name: (3R,4aR,5S,6S,6aS,10S,10aR,10bS)-5-(acetyloxy)-3-ethenyldodecahydro-10,10b-dihydroxy-3,4a,7,7,10a-pentamethyl-1-β-alanine, N,N-dimethyl-oxo-1H-naphtho[2,1-b]pyran-6-yl ester, monohydrochloride

Synonyms: Adehl, Colforsin Dapropate, Colforsin Daropate

MF:  $C_{27}H_{43}NO_8 \cdot HCl$

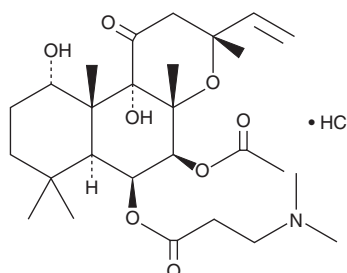
FW: 546.1

Purity: ≥95%

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

NKH477 (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the NKH477 (hydrochloride) in the solvent of choice, which should be purged with an inert gas. NKH477 (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of NKH477 (hydrochloride) in these solvents is approximately 2.5, 30, and 20 mg/ml, respectively.

NKH477 (hydrochloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, NKH477 (hydrochloride) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. NKH477 (hydrochloride) has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Forskolin (Item No. 11018) is a potent activator of adenylyl cyclase, but it is sparingly soluble in aqueous solutions. NKH477 is a water-soluble analog of forskolin which has both inotropic and vasodilator effects when administered intravenously.<sup>1-3</sup> Like forskolin, NKH477 activates adenylyl cyclases without altering the activity of phosphodiesterases or sodium/potassium ATPases.<sup>1</sup> This compound stimulates cardiac (type V) adenylyl cyclase more potently than other isoforms.<sup>4</sup> NKH477 relaxes guinea pig tracheal smooth muscle precontracted with histamine with an  $EC_{50}$  value of 32.6 nM.<sup>3</sup>

### References

1. Hosono, M., Takahira, T., Fujita, A., *et al.* Cardiovascular and adenylyl cyclase stimulant properties of NKH477, a novel water-soluble forskolin derivative. *J. Biomed. Sci.* **19**(4), 625-634 (1992).
2. Sanbe, A. and Takeo, S. Effects of NKH477, a water-soluble forskolin derivative, on cardiac function in rats with chronic heart failure after myocardial infarction. *J. Pharmacol. Exp. Ther.* **274**(1), 120-126 (1995).
3. Satake, K., Takagi, K., Kodama, I., *et al.* Relaxant effects of NKH477, a new water-soluble forskolin derivative, on guinea-pig tracheal smooth muscle: The role of  $Ca^{2+}$ -activated  $K^+$  channels. *Br. J. Pharmacol.* **123**(4), 753-761 (1998).
4. Toya, Y., Schwencke, C., and Ishikawa, Y. Forskolin derivatives with increased selectivity for cardiac adenylyl cyclase. *J. Mol. Cell. Cardiol.* **30**(1), 97-108 (1998).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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