1-Naphthaleneacetic acid

Cat. No.: HY-18570

CAS No.: 86-87-3

Molecular Formula: $C_{12}H_{10}O_2$

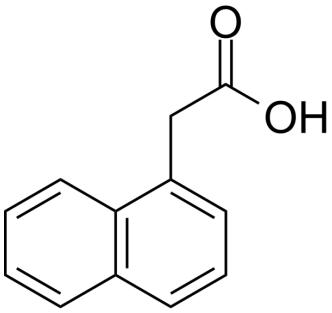
Molecular Weight: 186.21

Target: Phospholipase

Pathway: Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

Methanol : 125 mg/mL (671.29 mM; Need ultrasonic)

DMSO : ≥ 100 mg/mL (537.03 mM)

H_2O : < 0.1 mg/mL (insoluble)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	5.3703 mL	26.8514 mL	53.7028 mL
5 mM	1.0741 mL	5.3703 mL	10.7406 mL
10 mM	0.5370 mL	2.6851 mL	5.3703 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 (13.43 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (13.43 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (13.43 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

1-Naphthaleneacetic acid (1-Naphthylacetic acid), a auxin, can promote plant growth. 1-Naphthaleneacetic acid is also an inhibitor of PLA_2, with an IC_{50} of 13.16 μM[1][2].

IC_{50} & Target

PLA2

	13.16 μM (IC_{50})
In Vitro	1-Naphthaleneacetic acid (0.7-14 μM) inhibits the activity of PLA_2, with the K_i and IC_{50} of 6.87 μM and 13.16 μM, respectively [1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Gómez DA, et al. Effect of 1-naphthaleneacetic acid on organic acid exudation by the roots of white lupin plants grown under phosphorus-deficient conditions. J Plant Physiol. 2014 Sep 15;171(15):1354-61.

[2]. Dileep KV, et, al. Crystal structure of phospholipase A 2 in complex with 1-naphthaleneacetic acid. IUBMB Life. 2018 Oct;70(10):995-1001.

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