N-Nornuciferine

Cat. No.: HY-N2129

CAS No.: 4846-19-9

Molecular Formula: $C_{18}H_{19}NO_2$

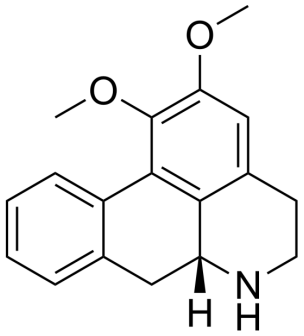
Molecular Weight: 281.35

Target: Cytochrome P450

Pathway: Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (355.43 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.5543 mL	17.7715 mL	35.5429 mL
5 mM	0.7109 mL	3.5543 mL	7.1086 mL
10 mM	0.3554 mL	1.7771 mL	3.5543 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 (8.89 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.89 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.89 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

N-Nornuciferine is an aporphine alkaloid in lotus leaf that significantly inhibits CYP2D6 with IC_{50} and K_i of 3.76 and 2.34 μM, respectively.

IC_{50} & Target

CYP2

In Vitro

The herb of lotus leaves is a commonly used traditional Chinese medicine with a wide range of pharmacological and physiological activities, particularly the reduction of the blood triglyceride and cholesterol levels. N-Nornuciferine strongly

inhibits CYP2D6 activity but shows weak or no inhibition of the other four P450 isoenzymes (CYP2C19, CYP3A4, CYP2E1, CYP2C9). N-Nornuciferine competitively inhibits the CYP2D6-catalyzed dextromethorphan o-demethylation with apparent K_i values of 2.34 μM[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Kinase Assay [1]

For the determination of the inhibition constant K_i values, various final concentrations of the specific substrate dextromethorphan for CYP2D6 in the range of 1 to 10 mM and different concentrations of the N-Nornuciferine in the range of 0 to 25 mM are used. After preincubation for 10 min, the reactions are initiated by the addition of NADPH. Each incubation test is performed in triplicate. Thirty minutes after the incubation is initiated, the reaction is stopped by the addition of 100 mL of ice-cold acetonitrile containing 1 mg/mL propranolol (IS). The incubation mixtures are then centrifuged at 15,000g for 10 min at 4 °C. Ten-microliter aliquots of the supernatants are injected into an LC-MS/MS system[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Carbohyd Polym. 2021 Feb 1;253:117255.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Ye LH, et al. Identification and characterization of potent CYP2D6 inhibitors in lotus leaves. J Ethnopharmacol. 2014 Apr 11;153(1):190-6.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA