

Product Data Sheet

Product Name: N-Nornuciferine

Cat. No.: GC36754

Chemical Properties

Cas. No. 4846-19-9

SMILES COC1=C(OC)C2=C3C(CCN[C@]3([H])CC4=CC=CC=C24)=C1

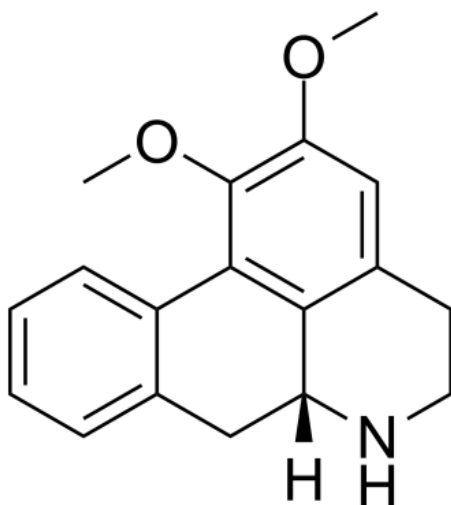
Formula $C_{18}H_{19}NO_2$ M.Wt 281.35

Solubility DMSO : 100 mg/mL (355.43 mM; Storage Store at -20°C, protect from light
Need ultrasonic)

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Protocol

Caution: Product has not been fully validated for medical applications. For research use only.

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**Kinase
experiment:**

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].

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.

Background

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 μ M, respectively. IC_{50} : 3.76 μ M (CYP2D6)[1] K_i : 2.34 μ M (CYP2D6)[1]

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 μ M[1].

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

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