

## Product Data Sheet

Product Name: Rotundine

Cat. No.: GC14657

### Chemical Properties

Cas. No. 483-14-7

SMILES COC1=C(C2=C(CC3C4=CC(=C(C=C4CCN3C2)OC)OC)C=C1)OC

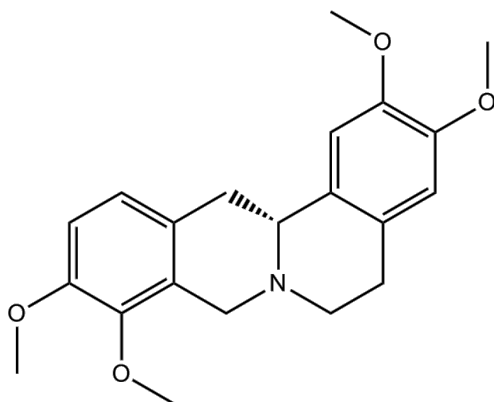
Formula  $C_{21}H_{25}NO_4$  M.Wt 355.43

Solubility  $\geq 16\text{mg/mL}$  in DMSO Storage Store at  $-20^{\circ}\text{C}$

General tips For obtaining a higher solubility, please warm the tube at  $37^{\circ}\text{C}$  and shake it in the ultrasonic bath for a while. Stock solution can be stored below  $-20^{\circ}\text{C}$  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

#### Animal experiment:

Kunming mice, initially weighing 18 to 22 g are used in this study. Four groups of mice are given Rotundine (l-THP) (6.25, 12.5, and 18.75 mg/kg) or saline, respectively, once per day for 7 consecutive days, followed by a 5 d withdrawal period. On d 13, all animals are challenged with saline. On day 1, 7, and 13, after 40-min treatment with Rotundine or saline, the mice are put into the test boxes and locomotor activity is monitored for 60 min[2].

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

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Address: 10292 Central Ave. #205, Montclair, CA, USA

## Product Data Sheet

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### References:

- [1]. Wang JB, et al. l-tetrahydropalaminine: a potential new medication for the treatment of cocaine addiction. *Future Med Chem.* 2012 Feb;4(2):177-86.
- [2]. Liu YL, et al. Effects of l-tetrahydropalaminine on locomotor sensitization to oxycodone in mice. *Acta Pharmacol Sin.* 2005 May;26(5):533-8.

### Background

Levo-tetrahydropalaminine (l-THP) is an active herbal constituent of preparations containing plant species of the genera *Stephania* and *Corydalis*. In China, it has been approved and used for a number of clinical indications under the drug name Rotundine.

In vitro: In contrast to other THPB derivatives, l-THP is an antagonist at both of D1 and D2 receptors. The  $K_i$  values for l-THP at D1 and D2 dopamine receptors are approximately 124 nM (D1) and 388 nM (D2), while the  $IC_{50}$  values are 166 nM and 1.4  $\mu$ M for D1 and D2, respectively. The relatively high affinity of l-THP at D1 vs. D2 receptors, distinguishes it from other available dopamine receptor antagonist drugs (e.g., haloperidol) [1].

In vivo: It has been found that l-THP produces dose-dependent reductions in locomotor activity and operant responding for non-drug reinforcers in rats [1].

Clinical trials: It has long been recognized l-THP has therapeutic values for treating a number of CNS related conditions. The effectiveness of l-THP as a non-opioid analgesic agent resulted in the approval of purified l-THP for this indication by the Chinese SFDA and has led to extensive investigation of the pharmacological properties of l-THP [1]

### Reference:

- [1] Wang JB, Mantsch JR. l-tetrahydropalaminine: a potential new medication for the treatment of cocaine addiction. *Future Med Chem.* 2012 Feb;4(2):177-86.

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