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## Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

## Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand


**SZABO-SCANDIC HandelsgmbH**

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

# Rotundine

**Cat. No.:** HY-N0096

**CAS No.:** 483-14-7

**Molecular Formula:** $C_{21}H_{25}NO_4$

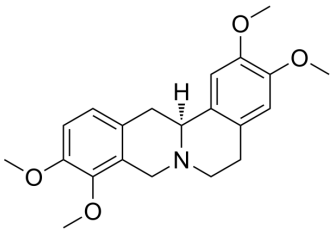
**Molecular Weight:** 355.43

**Target:** 5-HT Receptor; Dopamine Receptor

**Pathway:** GPCR/G Protein; Neuronal Signaling

**Storage:**

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



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : ≥ 100 mg/mL (281.35 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 | 2.8135 mL | 14.0675 mL | 28.1349 mL |
| 5 mM | 0.5627 mL | 2.8135 mL | 5.6270 mL |
| 10 mM | 0.2813 mL | 1.4067 mL | 2.8135 mL |

Please refer to the solubility information to select the appropriate solvent.

## BIOLOGICAL ACTIVITY

**Description**

Rotundine is an antagonist of dopamine D1, D2 and D3 receptors with $IC_{50}$s of 166 nM, 1.4 μM and 3.3 μM, respectively. Rotundine is also an antagonist of 5-$HT_{1A}$ with an $IC_{50}$ of 370 nM.

**$IC_{50}$ & Target**

| $D_1$ Receptor | $D_2$ Receptor | $D_3$ Receptor | 5-$HT_{1A}$ Receptor |
|---|---|---|---|
| 166 nM ($IC_{50}$) | 1400 nM ($IC_{50}$) | 3300 nM ($IC_{50}$) | 370 nM ($IC_{50}$) |

**In Vivo**

It is reported that Rotundine (l-THP) possesses a blocking effect on dopamine $D_1$ and D2 receptors and can inhibit physical dependence in morphine dependent mice and significantly reduce the development of the conditional place preference induced by morphine in mice. On day 1 and 7, there is no difference in locomotor counts between the Rotundine groups (6.25, 12.5, and 18.75 mg/kg) and saline group [$F(3, 37)=1.360$, $P>0.05$, $F(3, 37)=0.348$, $P>0.05$, respectively]. Locomotor counts are greatly increased in the oxycodone group compare with the saline group. Rotundine at doses of 6.25, 12.5, and 18.75 mg/kg antagonizes hyperactivity induced by oxycodone [$F(4, 60)=15.76$, $P<0.01$]. Rotundine (6.25, 12.5 mg/kg) does not affect the magnitude of sensitization, but there is a marked difference between oxycodone+oxycodone group and Rotundine

(18.75 mg/kg)+oxycodone+oxycodone group, indicating that Rotundine (18.75 mg/kg) greatly inhibits the development of oxycodone sensitization [F(4, 62)=8.766, P<0.01][2].

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

## PROTOCOL

**Animal Administration** [2]

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].

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

## REFERENCES

[1]. Wang JB, et al. l-tetrahydropalamatine: 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-tetrahydropalmatine on locomotor sensitization to oxycodone in mice. Acta Pharmacol Sin. 2005 May;26(5):533-8.



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