POBN

Cat. No.: HY-114713

CAS No.: 66893-81-0

Molecular Formula: $C_{10}H_{14}N_2O_2$

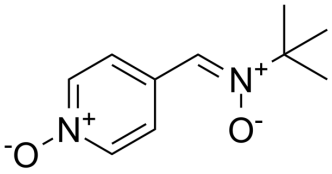
Molecular Weight: 194.23

Target: Others

Pathway: Others

Storage:

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



SOLVENT & SOLUBILITY

In Vitro

H_2O : 100 mg/mL (514.85 mM; Need ultrasonic)
DMSO : 50 mg/mL (257.43 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	5.1485 mL	25.7427 mL	51.4854 mL
5 mM	1.0297 mL	5.1485 mL	10.2971 mL
10 mM	0.5149 mL	2.5743 mL	5.1485 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (514.85 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (12.87 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (12.87 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (12.87 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

POBN (4-POBN) is a cell permeable, hydrophilic spin trap that can be used to detect free radical adducts[1].

In Vitro

When POBN (20 mM) and Sodium formate (100 mM) are mixed in the collecting tube with bile in the presence of 2,2′-dipyridyl (DP) (5 mM) and bathocuproinedisulfonic acid disodium salt hydrate (BC) (5 mM), only a minor residual signal of

	POBN radical adduct is observed[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Electron spin resonance (ESR) spectrum of radical adducts detected in bile of rats 1 h after acute Sodium formate (2 g/kg) and POBN (1.5 g/kg) i.p. administration[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Fischer male rats (300-400 g)[1]
Dosage:	1.5 g/kg (Pharmacokinetic Analysis)
Administration:	Injected simultaneously i.p.
Result:	A strong six-line ESR signal of the POBN radical adduct was detected in the bile of rats after acute sodium formate poisoning.

REFERENCES

[1]. A E Dikalova, et al. An in vivo ESR spin-trapping study: free radical generation in rats from formate intoxication--role of the Fenton reaction. Proc Natl Acad Sci U S A. 2001 Nov 20;98(24):13549-53.

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