Synephrine

Cat. No.: HY-N0132

CAS No.: 94-07-5

Molecular Formula: $C_9H_{13}NO_2$

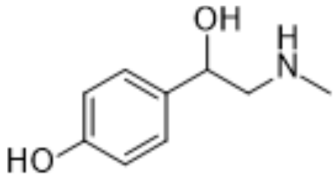
Molecular Weight: 167.21

Target: Endogenous Metabolite; Adrenergic Receptor

Pathway: Metabolic Enzyme/Protease; GPCR/G Protein; Neuronal Signaling

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 : 83.33 mg/mL (498.36 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	5.9805 mL	29.9025 mL	59.8050 mL
	5 mM	1.1961 mL	5.9805 mL	11.9610 mL
	10 mM	0.5981 mL	2.9903 mL	5.9805 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: ≥ 2.08 mg/mL (12.44 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (12.44 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (12.44 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Synephrine (Oxedrine), an alkaloid, is an α-adrenergic and β-adrenergic agonist derived from the Citrus aurantium. Synephrine is a sympathomimetic compound and can be used for weight loss[1][2].

IC_{50} & Target

β adrenergic receptor

In Vivo

Synephrine (1 mg/kg; oral gavage; for 8 days; PVL and BDL rats) significantly ameliorates the hyperdynamic state in both PVL and BDL rats. The portal venous pressure in PVL and BDL rats, portal tributary blood flow and cardiac index are significantly

reduced, while mean arterial pressure and systemic as well as portal territory vascular resistance are enhanced by treatment of Synephrine[2].

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

Animal Model:	Portal vein ligation (PVL) or bile duct ligation (BDL) rats[2]
Dosage:	1 mg/kg per 12 hours
Administration:	Oral gavage; for 8 days
Result:	The portal venous pressure in PVL and BDL rats, portal tributary blood flow and cardiac index were significantly reduced, while mean arterial pressure and systemic as well as portal territory vascular resistance were enhanced.

REFERENCES

[1]. Thomas JE, et al. STEMI in a 24-year-old man after use of a synephrine-containing dietary supplement: a case report and review of the literature. Tex Heart Inst J. 2009;36(6):586-90.

[2]. Huang YT, et al. Hemodynamic effects of synephrine treatment in portal hypertensive rats. Jpn J Pharmacol. 2001 Feb;85(2):183-8.

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