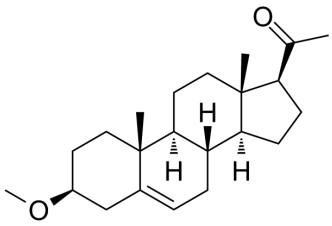
MAP4343

Cat. No.:	HY-107116
CAS No.:	511-26-2
Molecular Formula:	$C_{22}H_{34}O_2$
Molecular Weight:	330.5
Target:	Microtubule/Tubulin
Pathway:	Cell Cycle/DNA Damage; Cytoskeleton
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 : 25 mg/mL (75.64 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.0257 mL	15.1286 mL	30.2572 mL
	5 mM	0.6051 mL	3.0257 mL	6.0514 mL
	10 mM	0.3026 mL	1.5129 mL	3.0257 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: 2.5 mg/mL (7.56 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.56 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

MAP4343 is the 3-methylether derivative of Pregnenolone. MAP4343 binds in vitro to microtubule-associated protein 2 (MAP2), stimulates the polymerization of tubulin, enhances the extension of neurites and protects neurons against neurotoxic agents[1][2].

In Vitro

MAP4343 (40 μM; 15 or 30 min) stimulates microtubule polymerization in vitro[1].
MAP4343 (30 μM; 2-8 d) stimulates nerve growth factor (NGF)-induced neurite outgrowth in PC12 cells[1].
MAP4343 (20 μM; 1 h) protects against microtubule depolymerization induced by Nocodazole in PC12 cells[1]
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

MAP4343 (12 mg/kg; daily s.c. for 28 d) improves the recovery of locomotor function after spinal cord injury (SCI) in rats[2].

MAP4343 (4 mg/kg; daily s.c. for 6 d) increases MAP2 levels in spinal cord after SCI in rats[2].
MAP4343 (4 mg/kg; daily s.c. for 6 d) increases the size of lumbar spinal motoneurons' dendrite arbours after SCI in rats[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Adult Sprague-Dawley male rats with spinal cord injury[2]
Dosage:	12 mg/kg
Administration:	Daily s.c. for 28 days
Result:	Increased the number of animals able to walk with weight-supported plantar steps. Showed forelimb-hindlimb coordination at the end of the study.

REFERENCES

[1]. Fontaine-Lenoir V, et, al. Microtubule-associated protein 2 (MAP2) is a neurosteroid receptor. Proc Natl Acad Sci U S A. 2006 Mar 21;103(12):4711-6.

[2]. Duchossoy Y, et, al. Treatment of experimental spinal cord injury with 3β-methoxy-pregnenolone. Brain Res. 2011 Jul 27;1403:57-66.

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