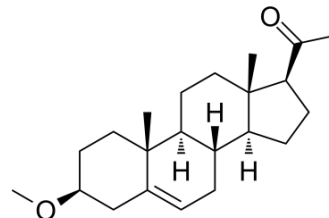


## MAP4343

<b>Cat. No.:</b>	HY-107116		
<b>CAS No.:</b>	511-26-2		
<b>Molecular Formula:</b>	C <sub>22</sub> H <sub>34</sub> O <sub>2</sub>		
<b>Molecular Weight:</b>	330.5		
<b>Target:</b>	Microtubule/Tubulin		
<b>Pathway:</b>	Cell Cycle/DNA Damage; Cytoskeleton		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 25 mg/mL (75.64 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	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.					
<b>In Vivo</b>	<ol style="list-style-type: none"> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: 2.5 mg/mL (7.56 mM); Suspended solution; Need ultrasonic</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.5 mg/mL (7.56 mM); Clear solution</li> </ol>				

### BIOLOGICAL ACTIVITY

<b>Description</b>	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 <sup>[1][2]</sup> .
<b>In Vitro</b>	<p>MAP4343 (40 μM; 15 or 30 min) stimulates microtubule polymerization in vitro<sup>[1]</sup>.</p> <p>MAP4343 (30 μM; 2-8 d) stimulates nerve growth factor (NGF)-induced neurite outgrowth in PC12 cells<sup>[1]</sup>.</p> <p>MAP4343 (20 μM; 1 h) protects against microtubule depolymerization induced by Nocodazole in PC12 cells<sup>[1]</sup></p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
<b>In Vivo</b>	MAP4343 (12 mg/kg; daily s.c. for 28 d) improves the recovery of locomotor function after spinal cord injury (SCI) in rats <sup>[2]</sup> .

MAP4343 (4 mg/kg; daily s.c. for 6 d) increases MAP2 levels in spinal cord after SCI in rats<sup>[2]</sup>.

MAP4343 (4 mg/kg; daily s.c. for 6 d) increases the size of lumbar spinal motoneurons' dendrite arbours after SCI in rats<sup>[2]</sup>.

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 <sup>[2]</sup>
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 3 $\beta$ -methoxy-pregnenolone. Brain Res. 2011 Jul 27;1403:57-66.

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

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