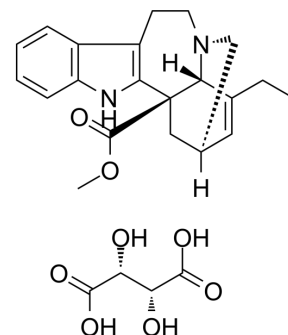


## Catharanthine Tartrate

<b>Cat. No.:</b>	HY-N0252A
<b>CAS No.:</b>	4168-17-6
<b>Molecular Formula:</b>	C <sub>25</sub> H <sub>30</sub> N <sub>2</sub> O <sub>8</sub>
<b>Molecular Weight:</b>	486.51
<b>Target:</b>	Calcium Channel
<b>Pathway:</b>	Membrane Transporter/Ion Channel; Neuronal Signaling
<b>Storage:</b>	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 100 mg/mL (205.55 mM; Need ultrasonic)																					
	H <sub>2</sub> O : 5 mg/mL (10.28 mM; ultrasonic and warming and adjust pH to 3 with HCl and heat to 60°C)																					
	<table border="1"> <thead> <tr> <th rowspan="2">Solvent</th> <th rowspan="2">Mass</th> <th colspan="3">Concentration</th> </tr> <tr> <th>1 mg</th> <th>5 mg</th> <th>10 mg</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Preparing Stock Solutions</td> <td>1 mM</td> <td>2.0555 mL</td> <td>10.2773 mL</td> <td>20.5546 mL</td> </tr> <tr> <td>5 mM</td> <td>0.4111 mL</td> <td>2.0555 mL</td> <td>4.1109 mL</td> </tr> <tr> <td>10 mM</td> <td>0.2055 mL</td> <td>1.0277 mL</td> <td>2.0555 mL</td> </tr> </tbody> </table>	Solvent	Mass	Concentration			1 mg	5 mg	10 mg	Preparing Stock Solutions	1 mM	2.0555 mL	10.2773 mL	20.5546 mL	5 mM	0.4111 mL	2.0555 mL	4.1109 mL	10 mM	0.2055 mL	1.0277 mL	2.0555 mL
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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 (5.14 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (5.14 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.5 mg/mL (5.14 mM); Clear solution</li> </ol>																					

### BIOLOGICAL ACTIVITY

<b>Description</b>	Catharanthine ((+)-3,4-Didehydrocoronaridine) Tartrate, a constituent of anticancer vinca alkaloids, inhibits voltage-operated L-type Ca <sup>2+</sup> channel (VOCC). Catharanthine Tartrate has IC <sub>50</sub> s of 220 μM and 8 μM for VOCC currents in cardiomyocytes and vascular smooth muscle cells (VSMCs), respectively. Catharanthine Tartrate lowers blood pressure (BP), heart rate (HR). Catharanthine Tartrate has anti-cancer activity <sup>[1][2]</sup> .
<b>IC<sub>50</sub> &amp; Target</b>	L-type calcium channel

## In Vivo

Catharanthine ((+)-3,4-Didehydrocoronaridine; 0.5-20 mg/kg; IV; single dose) Tartrate evokes dose-dependent reductions in both BP and HR<sup>[1]</sup>.

Catharanthine (40 mg/kg; ip; single dose) Tartrate with acute administration induces similar antidepressant-like activity in male and female mice at 1 h and 24 h<sup>[1]</sup>.

Catharanthine (20 mg/kg; ip; for 14 consecutive days) Tartrate increases swimming time and decreases immobility time at D7 or D14 in mice<sup>[1]</sup>.

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

Animal Model:	13-week-old male SpragueDawley rats (300-350 g) <sup>[1]</sup>
Dosage:	0.5-20 mg/kg
Administration:	IV; single dose
Result:	Evoked rapid, transient reductions in BP and HR (lasting ,2 minutes) at low doses (0.5–5 mg/kg), whereas at higher doses (10 and 20 mg/kg), the BP and HR reductions were sustained.

## REFERENCES

[1]. Hugo R Arias, et al. (+)-Catharanthine and (-)-18-methoxycoronaridine induce antidepressant-like activity in mice by differently recruiting serotonergic and norepinephrinergic neurotransmission. *Eur J Pharmacol.* 2023 Jan 15;939:175454.

[2]. Jadhav A, et al. Catharanthine dilates small mesenteric arteries and decreases heart rate and cardiac contractility by inhibition of voltage-operated calcium channels on vascular smooth muscle cells and cardiomyocytes. *J Pharmacol Exp Ther.* 2013 Jun;345(3):383-92.

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

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