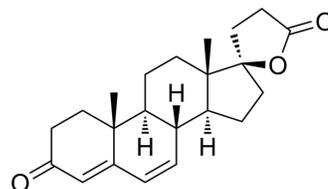


## Canrenone

<b>Cat. No.:</b>	HY-B1438		
<b>CAS No.:</b>	976-71-6		
<b>Molecular Formula:</b>	C <sub>22</sub> H <sub>28</sub> O <sub>3</sub>		
<b>Molecular Weight:</b>	340.46		
<b>Target:</b>	Mineralocorticoid Receptor; Endogenous Metabolite		
<b>Pathway:</b>	Metabolic Enzyme/Protease; Vitamin D Related/Nuclear Receptor		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 50 mg/mL (146.86 mM; Need ultrasonic)					
		Solvent Concentration	Mass	1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM		2.9372 mL	14.6860 mL	29.3720 mL
		5 mM		0.5874 mL	2.9372 mL	5.8744 mL
10 mM			0.2937 mL	1.4686 mL	2.9372 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 (7.34 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 (7.34 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.5 mg/mL (7.34 mM); Clear solution</li> </ol>					

### BIOLOGICAL ACTIVITY

<b>Description</b>	Canrenone (Aldadiene) is an aldosterone antagonist extensively used as a diuretic agent.
<b>IC<sub>50</sub> &amp; Target</b>	Target: Aldosterone <sup>[1]</sup>
<b>In Vitro</b>	Canrenone inhibits the production of eortieosterone, 18-hydroxydesoxyeortieosterone, 18-hydroxycorticosterone and aldosterone in a dose-dependent manner <sup>[1]</sup> . Canrenone dose-dependently reduces platelet-derived growth factor-induced cell proliferation and motility. Canrenone inhibits the activity of the Na <sup>+</sup> /H <sup>+</sup> exchanger 1 induced by platelet-derived growth

factor<sup>[2]</sup>.

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

#### In Vivo

Canrenone is the principal active metabolite of Spironolactone in the rat only for a limited period. During chronic treatment a difference developed between the effect of Spironolactone and Canrenone on the RAAS indicating a decrease in the anti-mineralocorticoid activity of Canrenone and an increase in the efficacy of Spironolactone<sup>[3]</sup>.

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## PROTOCOL

#### Cell Assay <sup>[2]</sup>

Confluent Hepatic Stellate Cells (HSC) are incubated in SFIF medium for 24 hours and exposed to increasing concentrations of canrenone (1, 5, 10, 25  $\mu$ M). Cell viability is evaluated by the trypan blue dye exclusion test at the end of a 24- to 48-hour incubation period<sup>[2]</sup>.

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

#### Animal Administration <sup>[3]</sup>

Rats<sup>[3]</sup>

Canrenone (CAN) is given orally in two different doses (10.25, 20.5 mg/mL) to Male SPF Sprague-Dawley rats for 6 weeks. To determine the Na<sup>+</sup>, K<sup>+</sup>, fluid and aldosterone excretion the urine of the rats destined to be killed after 6 weeks is collected at weekly intervals<sup>[3]</sup>

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

## CUSTOMER VALIDATION

- J Pharmaceut Biomed. 2020, 113870.

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## REFERENCES

[1]. Erbler HC, et al. On the mechanism of the inhibitory action of the spiro lactone SC 9376 (aldadiene) on the production of corticosteroids in rat adrenals in vitro. Naunyn Schmiedebergs Arch Pharmacol. 1973;277(2):139-49.

[2]. Caligiuri A, et al. Antifibrogenic effects of canrenone, an aldosterone antagonist, on human hepatic stellate cells. Gastroenterology. 2003 Feb;124(2):504-20.

[3]. Erbler HC, et al. Effect of spironolactone and its main metabolite canrenone on the renin-angiotensin-aldosterone-system during long-term treatment in rats. Acta Endocrinol (Copenh). 1979 Jan;90(1):147-56.

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

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