Canrenone

Cat. No.: HY-B1438

CAS No.: 976-71-6

Molecular Formula: $C_{22}H_{28}O_3$

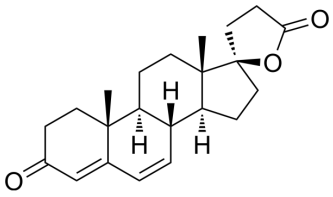
Molecular Weight: 340.46

Target: Mineralocorticoid Receptor; Endogenous Metabolite

Pathway: Metabolic Enzyme/Protease; Vitamin D Related/Nuclear Receptor

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (146.86 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
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.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (7.34 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (7.34 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.34 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Canrenone (Aldadiene) is an aldosterone antagonist extensively used as a diuretic agent.

IC_{50} & Target

Target: Aldosterone[1]

In Vitro

Canrenone inhibits the production of eortieosterone, 18-hydroxydesoxyeortieosterone, 18-hydroxycorticosterone and aldosterone in a dose-dependent manner[1]. Canrenone dose-dependently reduces platelet-derived growth factor–induced cell proliferation and motility. Canrenone inhibits the activity of the Na^+/H^+ exchanger 1 induced by platelet-derived growth

	factor[2]. 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[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [2]	Confluent Hepatic Stellate Cells (HSC) are incubated in SFIF medium for 24 hours and exposed to increasing concentrations of canrenone (1, 5, 10, 25 μM). Cell viability is evaluated by the trypan blue dye exclusion test at the end of a 24- to 48-hour incubation period[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [3]	Rats[3] 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^+, K^+, fluid and aldosterone excretion the urine of the rats destined to be killed after 6 weeks is collected at weekly intervals[3] . 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 spirolactone 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 antialdosteronic drug, 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.

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