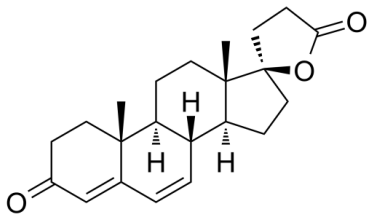
Data Sheet

Product Name:	Canrenone
Cat. No.:	CS-0013142
CAS No.:	976-71-6
Molecular Formula:	C22H28O3
Molecular Weight:	340.46
Target:	Mineralocorticoid Receptor
Pathway:	Metabolic Enzyme/Protease
Solubility:	DMSO : ≥ 100 mg/mL (293.72 mM)



BIOLOGICAL ACTIVITY:

Canrenone (Aldadiene; SC9376; SC14266) is an **aldosterone** antagonist extensively used as a diuretic agent. IC50 & 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]. **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].

PROTOCOL (Extracted from published papers and Only for reference)

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]. **Animal Administration:** Canrenone is suspended in 0.5% methyl cellulose by stirring and 10 min treatment in an ultrasound bath[3].[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]

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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.

CAIndexNames:

Pregna-4,6-diene-21-carboxylic acid, 17-hydroxy-3-oxo-, γ-lactone, (17α)-

SMILES:

C[C@@]12[C@]3(CCC(O3)=O)CC[C@@]1([H])[C@]4([H])C=CC5=CC(CC[C@]5(C)[C@@]4([H])CC2)=O

Tel: 732-484-9848 Fax: 888-484-5008 E-mail: sales@ChemScene.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA