Spironolactone-d_3

Cat. No.: HY-B0561S1

Molecular Formula: $C_{24}H_{29}D_3O_4S$

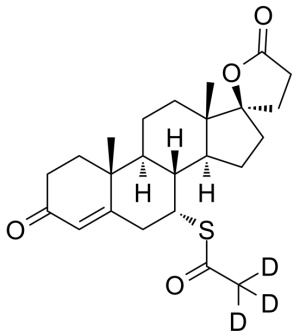
Molecular Weight: 419.59

Target: Androgen Receptor; Autophagy; Mineralocorticoid Receptor

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

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (119.16 mM; Need ultrasonic and warming)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.3833 mL	11.9164 mL	23.8328 mL
	5 mM	0.4767 mL	2.3833 mL	4.7666 mL
	10 mM	0.2383 mL	1.1916 mL	2.3833 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Spironolactone-d_3 is the deuterium labeled Spironolactone. Spironolactone (SC9420) is an orally active aldosterone mineralocorticoid receptor antagonist with an IC50 of 24 nM. Spironolactone is also a potent antagonist of androgen receptor with an IC50 of 77 nM. Spironolactone promotes autophagy in podocytes[1][2][3].

In Vitro

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1].

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

REFERENCES

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.

[2]. Kim GK, et al. Oral Spironolactone in Post-teenage Female Patients with Acne Vulgaris: Practical Considerations for the Clinician Based on Current Data and Clinical Experience. J Clin Aesthet Dermatol. 2012;5(3):37-50.

[3]. Fagart J, et al. A new mode of mineralocorticoid receptor antagonism by a potent and selective nonsteroidal molecule. J Biol Chem. 2010;285(39):29932-29940.

[4]. Dong D, et al. Spironolactone alleviates diabetic nephropathy through promoting autophagy in podocytes. Int Urol Nephrol. 2019;51(4):755-764.

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