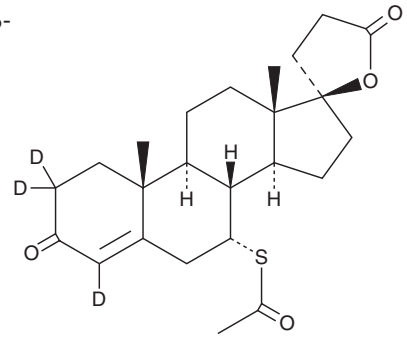
PRODUCT INFORMATION

Spironolactone-d_3

Item No. 40124

Formal Name:	S-((7R,8R,9S,10R,13S,14S,17R)-10,13-dimethyl-3,5'-dioxo-1,2,3,4',5',6,7,8,9,10,11,12,13,14,15,16-hexadecahydro-3'H-spiro[cyclopenta[a]phenanthrene-17,2'-furan]-7-yl-2,2,4-d_3) ethanethioate
MF:	$C_{24}H_{29}D_3O_4S$
FW:	419.6
Chemical Purity:	≥95% (Spironolactone)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_3); ≤1% d_0
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Spironolactone-d_3 is intended for use as an internal standard for the quantification of spironolactone by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Spironolactone-d_3 is supplied as a solid. A stock solution may be made by dissolving the spironolactone-d_3 in the solvent of choice, which should be purged with an inert gas. Spironolactone-d_3 is soluble in acetonitrile, DMSO, and methanol.

Description

Spironolactone is a steroidal mineralocorticoid receptor antagonist (IC_{50} = 24 nM) and a diuretic.[1] It is selective for the mineralocorticoid receptor over the glucocorticoid receptor (IC_{50} = 2,410 nM) but also binds to the androgen receptor and progesterone receptor (IC_{50}s = 77 and 743 nM, respectively). *In vivo*, spironolactone (37.5 mg/kg per day) administered in combination with lisinopril preserves ejection fraction in mice and reduces myocardial fibrosis in a mouse model of Duchenne muscular dystrophy (DMD).[2] Formulations containing spironolactone have been used in the treatment of hypertension and heart failure.

References

1. Kolkhof, P., Jaisser, F., Kim, S.-Y., *et al.* Steroidal and novel non-steroidal mineralocorticoid receptor antagonists in heart failure and cardiorenal diseases: Comparison at bench and bedside. *Handb. Exp. Pharmacol.* 243, 271-305 (2017).
2. Rafael-Fortney, J.A., Chimanji, N.S., Schill, K.E., *et al.* Early treatment with lisinopril and spironolactone preserves cardiac and skeletal muscle in Duchenne muscular dystrophy mice. *Circulation* **124(5)**, 582-588 (2011).

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