

# PRODUCT INFORMATION



## Spironolactone-d<sub>3</sub>

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<sub>3</sub>)ethanethioate

**MF:** C<sub>24</sub>H<sub>29</sub>D<sub>3</sub>O<sub>4</sub>S

**FW:** 419.6

**Chemical Purity:** ≥95% (Spironolactone)

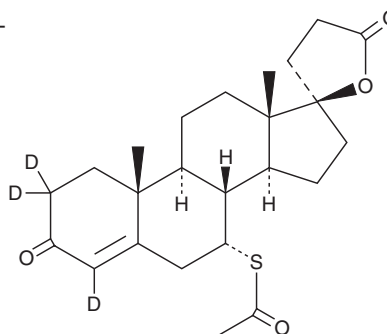
### Deuterium

**Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>3</sub>); ≤1% d<sub>0</sub>

**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<sub>3</sub> 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<sub>3</sub> is supplied as a solid. A stock solution may be made by dissolving the spironolactone-d<sub>3</sub> in the solvent of choice, which should be purged with an inert gas. Spironolactone-d<sub>3</sub> is soluble in acetonitrile, DMSO, and methanol.

## Description

Spironolactone is a steroidal mineralocorticoid receptor antagonist (IC<sub>50</sub> = 24 nM) and a diuretic.<sup>1</sup> It is selective for the mineralocorticoid receptor over the glucocorticoid receptor (IC<sub>50</sub> = 2,410 nM) but also binds to the androgen receptor and progesterone receptor (IC<sub>50</sub>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).<sup>2</sup> 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).

### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

### WARRANTY AND LIMITATION OF REMEDY

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## CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM