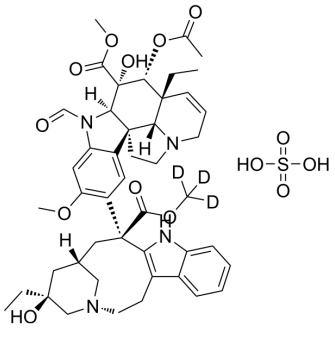
Vincristine-d_3-ester sulfate

Cat. No.:	HY-N0488S1
CAS No.:	1217854-24-4
Molecular Formula:	$C_{46}H_{55}D_3N_4O_{14}S$
Molecular Weight:	926.05
Target:	Microtubule/Tubulin; Apoptosis
Pathway:	Cell Cycle/DNA Damage; Cytoskeleton; Apoptosis
Storage:	-20°C, protect from light, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 83.33 mg/mL (89.98 mM; ultrasonic and warming and heat to 80°C)
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H_2O : 50 mg/mL (53.99 mM; Need ultrasonic)
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Preparing Stock Solutions

Concentration \ Solvent \ Mass	1 mg	5 mg	10 mg
1 mM	1.0799 mL	5.3993 mL	10.7986 mL
5 mM	0.2160 mL	1.0799 mL	2.1597 mL
10 mM	0.1080 mL	0.5399 mL	1.0799 mL

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

BIOLOGICAL ACTIVITY

Description

Vincristine-d_3-ester (sulfate) is the deuterium labeled Vincristine sulfate. Vincristine sulfate is an antitumor vinca alkaloid which inhibits microtubule formation in mitotic spindle, resulting in an arrest of dividing cells at the metaphase stage. It binds to microtubule with a Ki of 85 nM[1].

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

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[3]. Gidding, C.E., et al, Vincristine revisited. Crit Rev Oncol Hematol, 1999. 29(3): p. 267-87.

[4]. Donoso, J.A., et al, Action of the vinca alkaloids vincristine, vinblastine, and desacetyl vinblastine amide on axonal fibrillar organelles in vitro. Cancer Res, 1977. 37(5): p. 1401-7.

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[7]. Zhang D, et al. Co-delivery nanoparticles with characteristics of intracellular precision release drugs for overcoming multidrug resistance. Int J Nanomedicine. 2017 Mar 16;12:2081-2108.

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