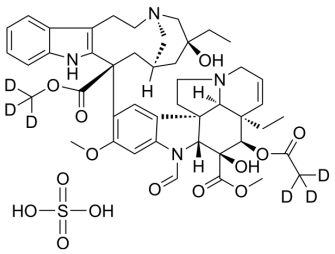
Vincristine-d_6 sulfate

Cat. No.:	HY-N0488S2
Molecular Formula:	$C_{46}H_{52}D_6N_4O_{14}S$
Molecular Weight:	929.07
Target:	Microtubule/Tubulin; Apoptosis; Isotope-Labeled Compounds
Pathway:	Cell Cycle/DNA Damage; Cytoskeleton; Apoptosis; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Vincristine-d_6 (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.
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]. Jordan, M.A., et al. Comparison of the effects of vinblastine, vincristine, vindesine, and vinepidine on microtubule dynamics and cell proliferation in vitro. Cancer Res, 1985. 45(6): p. 2741-7.

[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.

[5]. Horton, J.K., et al. Relationships between tumor responsiveness, vincristine pharmacokinetics and arrest of mitosis in human tumor xenografts. Biochem Pharmacol, 1988. 37(20): p. 3995-4000.

[6]. Baguley, B.C., et al, Inhibition of growth of colon 38 adenocarcinoma by vinblastine and colchicine: evidence for a vascular mechanism. Eur J Cancer, 1991. 27(4): p. 482-7.

[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.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA