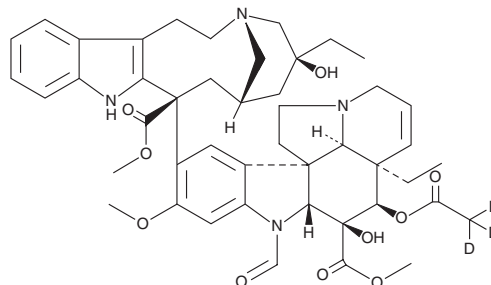


# PRODUCT INFORMATION



## Vincristine-d<sub>3</sub> Item No. 34512

**CAS Registry No.:** 1246817-09-3  
**Formal Name:** 22-oxo-vincal leukoblastine-d<sub>3</sub>  
**Synonyms:** Kyocristine-d<sub>3</sub>, Leurocristine-d<sub>3</sub>, Lilly 37231-d<sub>3</sub>, Novopharm-d<sub>3</sub>, VCR-d<sub>3</sub>  
**MF:** C<sub>46</sub>H<sub>53</sub>D<sub>3</sub>N<sub>4</sub>O<sub>10</sub>  
**FW:** 828.0  
**Chemical Purity:** ≥90% (Vincristine)  
**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  
**Item Origin:** Synthetic



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

### Laboratory Procedures

Vincristine-d<sub>3</sub> is intended for use as an internal standard for the quantification of vincristine (Item No. 11764) 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).

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

### Description

Vincristine is a vinca alkaloid that has been found in *C. rosea* and has anticancer activities.<sup>1,2</sup> It inhibits tubulin polymerization in a cell-free assay ( $K_i = 0.085 \mu\text{M}$ ) and induces mitotic arrest in U937 cells when used at a concentration of 10 nM. *In vivo*, vincristine (3 mg/kg) reduces tumor growth in rhabdomyosarcoma patient-derived xenograft (PDX) mouse models.<sup>3</sup> Formulations containing vincristine have been used in the treatment of various cancers.

### References

1. Jordan, M.A., Himes, R.H., and Wilson, L. Comparison of the effects of vinblastine, vincristine, vindesine, and vinepidine on microtubule dynamics and cell proliferation *in vitro*. *Cancer Res.* **45(6)**, 2741-2747 (1985).
2. Towle, M.J., Salvato, K.A., Wels, B.F., *et al.* Eribulin induces irreversible mitotic blockade: Implications of cell-based pharmacodynamics for *in vivo* efficacy under intermittent dosing conditions. *Cancer Res.* **71(2)**, 496-505 (2011).
3. Horton, J.K., Houghton, P.J., and Houghton, J.A. Relationships between tumor responsiveness, vincristine pharmacokinetics and arrest of mitosis in human tumor xenografts. *Biochem. Pharmacol.* **37(20)**, 3995-4000 (1988).

#### 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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