

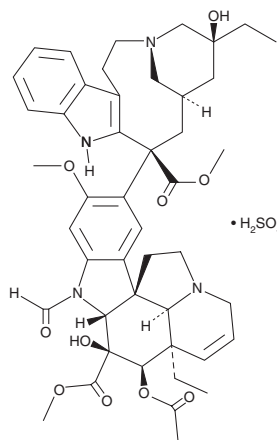
# PRODUCT INFORMATION



## Vincristine (sulfate)

Item No. 11764

**CAS Registry No.:** 2068-78-2  
**Formal Name:** 22-oxo-vincaleukoblastine sulfate  
**Synonyms:** Kyocristine, Lilly 37231, Leurocristine, Novopharm, NSC 67574, Oncovin, VCR  
**MF:**  $C_{46}H_{56}N_4O_{10} \cdot H_2SO_4$   
**FW:** 923.0  
**Purity:**  $\geq 95\%$   
**Stability:**  $\geq 2$  years at  $-20^\circ C$   
**Supplied as:** A crystalline solid  
**UV/Vis.:**  $\lambda_{max}$ : 221, 259, 296 nm



### Laboratory Procedures

For long term storage, we suggest that vincristine (sulfate) be stored as supplied at  $-20^\circ C$ . It should be stable for at least two years.

Vincristine (sulfate) is supplied as a crystalline solid. A stock solution may be made by dissolving the vincristine (sulfate) in the solvent of choice. Vincristine (sulfate) is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of vincristine (sulfate) in these solvents is approximately 5 and 3 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of vincristine (sulfate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of vincristine (sulfate) in PBS, pH 7.2, is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Vincristine is an antimitotic vinca alkaloid, isolated from the plant *V. rosea*. It irreversibly blocks mitosis by binding to tubulin ( $K_i = 85$  nM) and inhibiting tubulin polymerization.<sup>1,2</sup> Vincristine is exported from cells via the ATP-binding cassette transporter P-glycoprotein, but not by multidrug resistance-associated protein.<sup>3</sup> Its effectiveness in blocking the proliferation of cancer cells is affected by overexpression of P-glycoprotein.<sup>4</sup>

### 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. van Tellingen, O., Buckle, T., Jonker, J.W., *et al.* P-glycoprotein and Mrp1 collectively protect the bone marrow from vincristine-induced toxicity *in vivo*. *Br. J. Cancer* **89(9)**, 1776-1782 (2003).
4. Chan, H.S.L., Haddad, G., Thorner, P.S., *et al.* P-glycoprotein expression as a predictor of the outcome of therapy for neuroblastoma. *N. Engl. J. Med.* **325(23)**, 1608-1614 (1991).

#### 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

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 08/18/2015

#### 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