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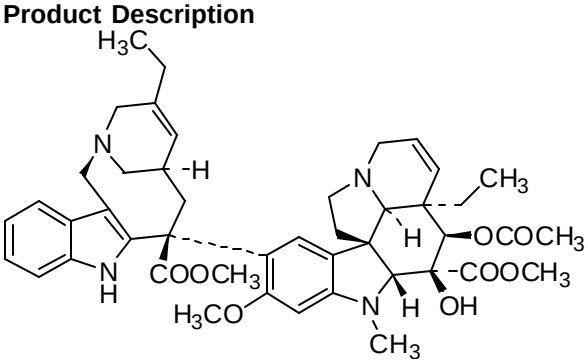
ProductInformation

Vinorelbine ditartrate salt hydrate

Product Number **V2264**
Storage Temperature 2–8 °C

CAS RN 125317-39-7 (anhydrous)
Synonym: 3',4'-Didehydro-4'-deoxy-C'-norvincaleukoblastine

Product Description



Molecular Formula: $C_{45}H_{54}N_4O_8 \cdot 2C_4H_6O_6 \cdot xH_2O$
Molecular Weight: 1079.11 (anhydrous)

Vinca alkaloids, including the natural products vincristine and vinblastine and the semisynthetic derivatives vindesine and vinorelbine, are antimitotic drugs that are widely used in the retreatment of cancer. Vinorelbine, a microtubule inhibitor, is the latest of the Vinca alkaloids, which promotes apoptosis in several tumor cell lines and *in vitro* shows both multidrug and non-multidrug resistance.

Vinorelbine induces disassociation of cellular microtubules, most likely by modifying the dynamics of the spindle microtubules. This suppression of microtubule dynamics appears to cause a mitotic block by activating the metaphase-anaphase checkpoint. Vinorelbine arrests cell cycle and inhibits microtubule assembly by binding tubulin and inducing coiled spiral aggregate formation. Microtubules are present in mitotic spindles, neuronal axons, and other cells. Inhibition of mitotic microtubules appears to correlate with antitumor activity, while inhibition of axonal microtubules seems to correlate with neurotoxicity. Compared to vincristine and vinblastine, vinorelbine is more selective against mitotic than axonal microtubules *in vitro*, which may account for its decreased neurotoxicity. Like the other Vinca alkaloids, vinorelbine has a potency in the submicromolar range.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store the product at 2–8 °C.

References

1. Ochiai, N., *et al*., Effect of vinorelbine on the growth of human myeloma cell lines *in vitro*. Leukemia Res., **26**, 731-738 (2002).
2. Ngan, V.K., *et al*., Novel actions of the antitumor drugs vinflunine and vinorelbine on microtubules. Cancer Res., **60**, 5045-5051 (2000).
3. Verdier-Pinard, P., *et al*., Differential *in vitro* association of Vinca alkaloid-induced tubulin spiral filaments into aggregated spirals. Biochem. Pharm., **58**, 959-971 (1999).

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