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## Product Data Sheet

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Product Name: Vinflunine  
 Cat. No.: GC37909

### Chemical Properties

Cas. No. 162652-95-1

SMILES CC[C@@]1(C=CCN2CC3)[C@@]2([H])[C@@]3(C(C=C([C@](C4=C5C(C=CC=C6)=C6N4)(CC(C[C@@H](C(F)(F)C)C7) ([H])CN7C5)C(OC)=O)C(OC)=C8)=C8N9C)[C@]9([H])[C@](C(OC)=O)(O)[C@@H]1OC(C)=O

Formula C<sub>45</sub>H<sub>54</sub>F<sub>2</sub>N<sub>4</sub>O<sub>8</sub> M.Wt 816.93

Solubility Soluble in DMSO Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure

### Background

Vinflunine is a new vinca alkaloid uniquely fluorinated with the properties of mitotic-arresting and tubulin-interacting activity. Target: Microtubule/Tubulin. The major effects of Vinflunine on dynamic instability are a slowing of the microtubule growth rate, an increase in growth duration, and a reduction in shortening duration. The effects of Vinflunine on the readmilling rate is examined by following [<sup>3</sup>H]GTP incorporation into MAP-rich microtubules, and the IC<sub>50</sub> is 0.42 μM [1]. Vinflunine induced mitotic accumulation with IC<sub>50</sub> with 18.8 nM, which decreases the centromere dynamicity by 44% and increases the time centromeres spent in a paused state by 63% [2]. Treatment of Vinflunine induces a rapid change in endothelial cell shape: cells retracts and assumes a rounded morphology. Mean IC<sub>50</sub> values are 9.9 × 10<sup>-5</sup> M × 10<sup>-5</sup> M for fibronectin and 5.0 × 10<sup>-5</sup> M × 10<sup>-5</sup> M for type IV collagen. A short 4 hours exposure of endothelial cells to Vinflunine at 10<sup>-8</sup> 0.05). An ID<sub>50</sub> value (dose which inhibits 50% of bFGF-induced neovascularisation) is calculated as 1 mg/kg. Low doses of Vinflunine

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

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reduce the number of experimental liver metastases by human LS174T colon cancer cell. A slight overall decrease in liver metastatic foci is already observed at the very low dose of 0.16 mg/kg Vinflunine, although maximal overall inhibition is reached at the maximal tolerated dose (MTD) of 20 mg/kg [3].

[1]. Ngan, V.K., et al., Novel actions of the antitumor drugs vinflunine and vinorelbine on microtubules. *Cancer Res*, 2000. 60(18): p. 5045-51. [2]. Lobert, S., et al., Vinca alkaloid-induced tubulin spiral formation correlates with cytotoxicity in the leukemic L1210 cell line. *Biochemistry*, 2000. 39(39): p. 12053-62. [3]. Kruczynski, A., et al., Anti-angiogenic, vascular-disrupting and anti-metastatic activities of vinflunine, the latest vinca alkaloid in clinical development. *Eur J Cancer*, 2006. 42(16): p. 2821-32.

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