Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

Vinflunine

Catalog No: tcsc2868

Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Size: 100mg

Specifications

CAS No:
162652-95-1

Formula:
$C_{45}H_{54}F_2N_4O_8$

Pathway:
Cell Cycle/DNA Damage;Cytoskeleton

Target:
Microtubule/Tubulin;Microtubule/Tubulin

Purity / Grade:
>98%

Solubility:
10 mM in DMSO

Observed Molecular Weight:
816.93

Product Description

Vinflunine is a new vinca alkaloid uniquely fluorinated with the properties of mitotic-arresting and tubulin-interacting activity.

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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 [3H]GTP incorporation into MAP-rich microtubules, and the IC50 is 0.42 μM [1]. Vinflunine induced mitotic accumulation with IC50 with 18.8 nM, which decreases the centromere dynamicity by 44% and increases the time centromeres spent ina paused state by 63% [2]. Treatment of Vinflunine induces a rapid change in endothelial cell shape: cells retracts and assumes a rounded morphology. Mean IC50 values are 9.9 × 10-5 M × 10-5 M for fibronectin and 5.0× 10-5 M × 10-5 M for type IV collagen. A short 4 hours exposure of endothelial cells to Vinflunine at 10-8M results in an inhibition of endothelial cell motility response to NIH3T3 cells-derived angiogenic factors. Inhibition is dose dependent, with a mean IC50 value of 7.1 × 10-7 × 10-7 M [3].

Intravenous treatment of mice with Vinflunine, immediately before and 2 day after Matrigel implantation, results in a dose-dependent inhibition of the bFGF-induced angiogenic response, compared with vehicle-treated animals. Inhibition of haemoglobin content is significant at 1.25, 2.5 and 5 mg/kg, with no effect at 0.63 mg/kg ($P > 0.05$). An ID50 value (dose which inhibits 50% of bFGF-induced neovascularisation) is calculated as 1 mg/kg. Low doses of Vinflunine 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].