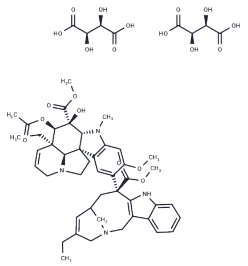
Data Sheet (Cat.No.T6213)

TargetMol

Vinorelbine ditartrate

Chemical Properties



CAS No. :	125317-39-7
Formula:	C45H54N4O8·2C4H6O6
Molecular Weight:	1079.11
Storage:	Store at low temperature Powder: -20°C for 3 years | In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.

Biological Description

Description	Vinorelbine ditartrate (KW-2307) is a natural alkaloid and an anti-mitotic agent. Vinorelbine ditartrate has anti-tumor activity, inhibiting cell proliferation and inducing apoptosis.
Targets(IC50)	Microtubule Associated,Autophagy
In vitro	**METHODS**: Human lung cancer cells NCI-H460 and A549 were treated with Vinorelbine ditartrate (0.01-10 μM) and DT-13 (10 μM) for 48 h. Cell viability was measured by MTT assay. **RESULTS**: DT-13 significantly increased the cytotoxicity of Vinorelbine on NCI-H460 and A549 cells. The drug-drug interaction between DT-13 and NVB was calculated by combinatorial index (CI) value, which indicated that the DT-13/Vinorelbine combination therapy showed strong synergistic effects in NSCLC cells. [1] **METHODS**: APC+ or APC- U2OS cells were treated with Vinorelbine ditartrate (1-50 μg/mL) for 4 h. Apoptosis was detected by Flow cytometry. **RESULTS**: Vinorelbine-induced cell death was more pronounced in APC-deficient cells, suggesting that the number of aCasp3-containing cells increased after 4 h of treatment with a certain concentration of Vinorelbine. This rapid response to Vinorelbine suggests that death is not associated with mitotic arrest. [2]
In vivo	**METHODS**: To assay antitumor activity in vivo, vinorelbine ditartrate (1-10 mg/kg, i.v.) and DT-13 (1.25 mg/kg, by gavage) were administered to BALB/c athymic nude mice bearing NCI-H460 xenografts once daily for three weeks. **RESULTS**: Treatment with Myricetin or cisplatin alone moderately inhibited tumor growth, but the combination treatment inhibited tumor growth more significantly than Myricetin or cisplatin alone. [1]

Solubility Information

Solubility	H2O: 107.9 mg/mL (99.99 mM),Sonication is recommended. DMSO: 127 mg/mL (117.69 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (4.63 mM),Sonication is recommended.

In vivo Formulation	*Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.9267 mL	4.6334 mL	9.2669 mL
5 mM	0.1853 mL	0.9267 mL	1.8534 mL
10 mM	0.0927 mL	0.4633 mL	0.9267 mL
50 mM	0.0185 mL	0.0927 mL	0.1853 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Li H, et al. DT-13 synergistically enhanced vinorelbine-mediated mitotic arrest through inhibition of FOXM1-BICD2 axis in non-small-cell lung cancer cells. Cell Death Dis. 2017 May 25;8(5):e2810.
Qian H Y, Zhou F, Wu R, et al. Metformin Attenuates Bone Cancer Pain by Reducing TRPV1 and ASIC3 Expression. Frontiers in Pharmacology. 2021: 1924.
Klotz DM, et al. The microtubule poison vinorelbine kills cells independently of mitotic arrest and targets cells lacking the APC tumour suppressor more effectively. J Cell Sci. 2012 Feb 15;125(Pt 4):887-95.
Zhou YT, et al. Asian Pac J Cancer Prev. 2013, 14(8), 4635-4639.
Xu YC, et al. Breast J. 2013, 19(2), 180-188.
Hill BT, et al. Eur J Cancer. 1999, 35(3), 512-520.