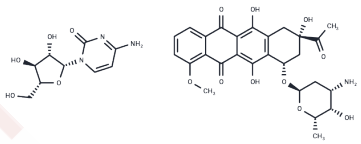
Data Sheet (Cat.No.T31088)

TargetMol

CPX-351

Chemical Properties



CAS No. : 1256639-86-7

Formula: C36H42N4O15

Molecular Weight: 770.74

Storage: Keep away from moisture,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	CPX-351 (Vyxeos) is a liposomal formulation of cytarabine and daunorubicin with potential antitumor activity. CPX-351 delivers these two compounds to leukemia cells in a synergistic 5:1 ratio, with higher delivery rates than in normal bone marrow cells. CPX-351 is indicated for the treatment of acute myeloid leukemia.
Targets(IC50)	Others
In vitro	**Methods**: p53 wild-type AML cells (MOLM-13, MV4-11, MOLM-14) were treated with CPX-351 (62.5 nM) alone or in combination with M3814 (500 nM), and apoptosis rates were assessed at various time points using Annexin V flow cytometry. **Results**: M3814 significantly enhanced CPX-351-induced apoptosis in p53 wild-type AML cells, with a time-dependent increase. [2] **Methods**: MOLM-13 cells were co-cultured with healthy bone marrow-derived MSCs and treated with CPX-351 alone or in combination with M3814; apoptosis was assessed by Annexin V flow cytometry. **Results**: MSCs attenuated the apoptosis-inducing effect of CPX-351 monotherapy, whereas the combination of M3814 and CPX-351 significantly reversed the protective effect of MSCs and restored cytotoxicity against AML cells.[2]
In vivo	**Methods**: C57BL/6 mice (female, 8–10 weeks old) received tail vein injections (CPX-351 group: 12:5.3 mg/kg; “7+3” group: 600:9 mg/kg) every 3 days for a total of 3 doses. **Results**: The “7+3” group exhibited intestinal injury, colon shortening, inflammatory infiltration, increased permeability, and bacterial translocation. The CPX-351 group showed no such pathological changes, maintaining intestinal barrier integrity and immune function. [1]

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.2975 mL	6.4873 mL	12.9745 mL
5 mM	0.2595 mL	1.2975 mL	2.5949 mL
10 mM	0.1297 mL	0.6487 mL	1.2975 mL
50 mM	0.0259 mL	0.1297 mL	0.2595 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

Renga G, et al. CPX-351 exploits the gut microbiota to promote mucosal barrier function, colonization resistance, and immune homeostasis. Blood. 2024 Apr 18;143(16):1628-1645.
Haines E, Nishida Y, Carr MI, et al. DNA-PK inhibitor peposertib enhances p53-dependent cytotoxicity of DNA double-strand break inducing therapy in acute leukemia. Sci Rep. 2021;11(1):12148. Published 2021 Jun 9.
Usuki K,et al; Study Group for NS-87/CPX-351. A phase 1/2 study of NS-87/CPX-351 (cytarabine and daunorubicin liposome) in Japanese patients with high-risk acute myeloid leukemia. Int J Hematol. 2024 Jun;119(6):647-659. doi: 10.1007/s12185-024-03733-z. Epub 2024 Mar 26.
Renga G, et al. CPX-351 exploits the gut microbiota to promote mucosal barrier function, colonization resistance, and immune homeostasis. Blood. 2024 Apr 18;143(16):1628-1645.