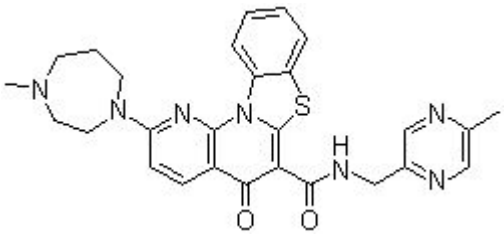
Product Introduction

CX-5461

CX-5461 is an inhibitor of **rRNA synthesis**, selectively inhibits Pol I-driven transcription of rRNA with **IC50** of 142 nM, has no effect on Pol II, and possesses 250- to 300-fold selectivity for inhibition of rRNA transcription versus DNA replication and protein translation.

Technical Data:

Molecular Weight (MW):	513.61	
Formula:	$C_{27}H_{27}N_7O_2S$	
Solubility (25°C) * <1 mg/ml means slightly soluble or insoluble:	DMSO 0.02 mg/mL	
	Water <1 mg/mL	
	Ethanol <1 mg/mL	
Purity:	>98%	
Storage:	3 years -20℃Powder	
	6 months-80℃in DMSO	
CAS No.:	1138549-36-6	

Biological Activity

CX-5461 is found to selectively inhibit rRNA synthesis (Pol I IC50=142 nM; Pol II IC50 > 25 μM; selectivity ~200-fold) in the HCT-116 cells. Selective inhibition of rRNA synthesis by CX-5461 is confirmed in two other human solid tumor cell lines; melanoma A375 (Pol I IC50 = 113 nM; Pol II IC50 > 25 μM) and pancreatic carcinoma MIA PaCa-2 (Pol I IC50=54 nM; Pol II IC50 ~25 mM). CX-5461 possesses 250- to 300-fold selectivity for inhibition of rRNA transcription versus DNA replication and protein translation.

CX-5461 exhibits broad antiproliferative potency in a panel of cancer cell lines in human cancer cell lines, but has minimal effect on viability of nontransformed human cells. The median EC50 across all tested cell lines is 147 nM, yet all normal cell lines have EC50 values of approximately 5, 000 nM. Evaluation of the antiproliferative dose response for HCT-116, A375, and MIA PaCa-2 cell lines yield EC50 values of 167, 58, and 74 nM. CX-5461 induces autophagy and senescence in solid tumor cancer cells, rather than apoptosis, through a p53-independent process. [1]

CX-5461 is orally bioavailable and demonstrates in vivo antitumor activity against human solid tumors in murine xenograft models. CX-5461 demonstrates significant MIA PaCa-2 TGI with TGI equal to 69% on day 31, comparable to that of gemcitabine (63% TGI). Gemcitabine is a positive control which is administered intraperitoneally once every 3 days at 120 mg/kg. Likewise, CX- 5461 demonstrates significant A375 TGI with TGI equal to 79% on day 32. [1]

References

[1] Drygin D, et al, Cancer Res, 2011, 71(4), 1418-1430.

Note： Products protected by valid patents are not offered for sale in countries where the sale of such products constitutes a patent infringement and its liability is at buyer’s risk. This item is only for R&D purpose not for commercial business in kilos. Buyers should overview the patent issue in their countries.