

# CX-5461

**Catalog No: tcsc0568**



## Available Sizes

**Size:** 5mg

**Size:** 10mg

**Size:** 50mg



## Specifications

**CAS No:**

1138549-36-6

**Formula:**

$C_{27}H_{27}N_7O_2S$

**Pathway:**

Cell Cycle/DNA Damage

**Target:**

DNA/RNA Synthesis

**Purity / Grade:**

>98%

**Solubility:**

10 mM in DMSO

**Observed Molecular Weight:**

513.61

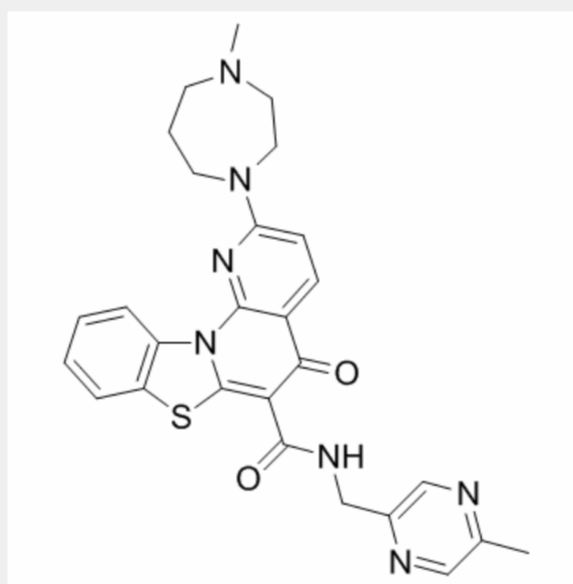
## Product Description

CX-5461 is a potent and orally bioavailable inhibitor of Pol I-mediated **rRNA synthesis**, with **IC<sub>50</sub>s** of 142 nM in HCT-116, 113 nM in A375, and 54 nM in MIA PaCa-2 cells, and shows little or no effect on Pol II (**IC<sub>50</sub> ≥25 μM**).

IC50 & Target: IC50: 54 nM (rRNA synthesis, MIA PaCa-2 cells), 113 nM (rRNA synthesis, A375 cells), 142 nM (rRNA synthesis, HCT-116 cells)<sup>[1]</sup>

**In Vitro:** CX-5461 is a potent and orally bioavailable inhibitor of Pol I-mediated rRNA synthesis, with IC<sub>50</sub>s of 142 nM in HCT-116, 113 nM in A375, and 54 nM in MIA PaCa-2 cells, and shows little or no effect on Pol II (IC<sub>50</sub>, ≥25 μM). CX-5461 has modest inhibition on DNA replication and protein translation. CX-5461 also exhibits broad antiproliferative activity against a panel of human cancer cell lines, with a mean EC<sub>50</sub> of 147 nM, but has minimal effect on viability of nontransformed human cells, with EC<sub>50</sub> values of appr 5000 nM. EC<sub>50</sub>s of CX-5461 for HCT-116, A375, and MIA PaCa-2 cell lines are 167, 58, and 74 nM, respectively. CX-5461 induces autophagy and senescence in solid tumor cancer cells, rather than apoptosis, through a p53-independent process<sup>[1]</sup>. Eμ-Myc lymphoma cells from tumor-bearing mice are exquisitely sensitive to CX-5461 with an IC<sub>50</sub> of 27.3 nM ± 8.1 nM for Pol I transcription after 1 hr and IC<sub>50</sub> of 5.4 nM ± 2.1 nM for cell death after 16 hr. CX-5461 activates p53 via the nucleolar stress response in Eμ-MycLymphoma Cells<sup>[2]</sup>.

**In Vivo:** CX-5461 displays antitumor activity against human solid tumors in murine xenograft models. CX-5461 (50 mg/kg, p.o.) shows significant MIA PaCa-2 growth inhibition with TGI equal to 69% on day 31 and 79% TGI on A375 on day 32<sup>[1]</sup>. CX-5461 (50 mg/kg, p.o.) inhibits the Eμ-Myc tumor cells with 84% repression in Pol I transcription at 1 hr posttreatment in C57BL/6 mice. CX-5461 also induces a rapid reduction in tumor burden in the lymph nodes and a concomitant reduction of spleen size to within the normal range<sup>[2]</sup>.



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!