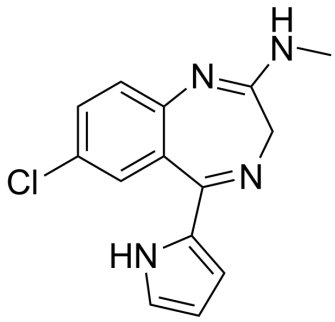
Ro24-7429

Cat. No.:	HY-19149
CAS No.:	139339-45-0
Molecular Formula:	$C_{14}H_{13}ClN_4$
Molecular Weight:	272.73
Target:	HIV; Apoptosis
Pathway:	Anti-infection; Apoptosis
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 62.5 mg/mL (229.16 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.6666 mL	18.3331 mL	36.6663 mL
	5 mM	0.7333 mL	3.6666 mL	7.3333 mL
	10 mM	0.3667 mL	1.8333 mL	3.6666 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (7.63 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (7.63 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (7.63 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Ro24-7429 is a potent and orally active HIV-1 transactivator protein Tat antagonist. Ro24-7429 is also a runt-related transcription factor 1 (RUNX1) inhibitor. Ro24-7429 has anti-HIV, antifibrotic and anti-inflammatory effects[1][2].

IC_{50} & Target

HIV-1

In Vitro

Ro 24-7429 (0.1-5 μM; 3 days) induces apoptosis of cultured PBMCs in a dose-dependent manner[1].
Ro 24-7429 (1-25 μM) also induces apoptosis and inhibits antigen-induced lymphocyte proliferation[1].

Ro24-7429 (50-200 μM; 24-72 hours) strongly inhibits the proliferation of A549 and HLF cells in a dose-dependent manner. Ro24-7429 treatment (75 μM) significantly reduces TNF-α-induced up-regulation of RUNX1 mRNA by 50% at 48 hours[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Apoptosis Analysis[1]

Cell Line:	Peripheral blood mononuclear cells (PBMCs)
Concentration:	0.1 μM, 1 μM, 5 μM
Incubation Time:	3 days
Result:	Induced a dose-dependent increase in apoptosis of cultured PBMCs.

In Vivo

Ro24-7429 (17.5-70 mg/kg; i.p.; daily; for 14 or 21 days) treatment robustly ameliorates lung fibrosis and inflammation in the Bleomycin-induced pulmonary fibrosis (PF) mouse model. Ro24-7429 curbs expression of fibrosis markers in injured mouse lungs[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	C57BL/6J male and female mice (aged 6 to 8 weeks) induced by Bleomycin[2]
Dosage:	17.5 mg/kg, 35 mg/kg, and 70 mg/kg
Administration:	i.p.; daily; for 14 or 21 days
Result:	Ameliorated lung fibrosis and inflammation in the Bleomycin-induced PF mouse model.

REFERENCES

[1]. A H Patki, et al. HIV-1 Tat protein and its inhibitor Ro 24-7429 inhibit lymphocyte proliferation and induce apoptosis in peripheral blood mononuclear cells from healthy donors. Cell Immunol. 1996 Apr 10;169(1):40-6.

[2]. Michael O'Hare, et al. Targeting Runt-Related Transcription Factor 1 Prevents Pulmonary Fibrosis and Reduces Expression of Severe Acute Respiratory Syndrome Coronavirus 2 Host Mediators. Am J Pathol. 2021 Jul;191(7):1193-1208.

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