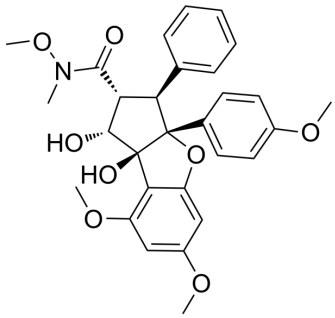
Rohinitib



Cat. No.:	HY-148422
CAS No.:	1139253-73-8
Molecular Formula:	$C_{29}H_{31}NO_8$
Molecular Weight:	521.56
Target:	Eukaryotic Initiation Factor (eIF); Apoptosis
Pathway:	Cell Cycle/DNA Damage; 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 : 200 mg/mL (383.46 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.9173 mL	9.5866 mL	19.1732 mL
	5 mM	0.3835 mL	1.9173 mL	3.8346 mL
	10 mM	0.1917 mL	0.9587 mL	1.9173 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 5 mg/mL (9.59 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 5 mg/mL (9.59 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Rohinitib is a potent and specific eIF4A inhibitor. Rohinitib induces cell apoptosis of acute myeloid leukemia (AML) cell lines and reduces the leukemia burden of AML xenograft model. Rohinitib can be used for the research of AML[1].

In Vitro

Rohinitib (6.25-50 nM; 72 h) induces cell apoptosis of AML cell lines and FLT3-ITD-positive AML cell lines[1].
Primary AML cells is more sensitive to Rohinitib (25 nM; 72 h) than normal bone marrow (BM) and FLT3-ITD-positive cells is more sensitive to Rohinitib than FLT3 wild-type AML cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Apoptosis Analysis[1]

Cell Line:	AML cell lines
Concentration:	6.25, 12.5, 25 and 50 nM
Incubation Time:	72 h
Result:	Dose-dependently induced apoptosis of MOLM-13, MOLM-14, MV4;11, OCI-AML3, THP-1, HL-60, Kasumi-1 and NB4 cell lines. And significantly induced cell apoptosis of FLT3-ITD, FLT3-ITD-expressing murine Ba/F3 and human OCI-AML3 cells.

In Vivo

Rohinitib (0.75 and 1.0 mg/kg; s.c. once daily for 5 consecutive days until mice get moribund) shows anti-AML effects in vivo [1].

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Animal Model:	Female NSG mice with AML xenografts generated by intravenous injections of MOLM-13 cells[1]
Dosage:	0.75 and 1.0 mg/kg
Administration:	Subcutaneous injection; 0.75 and 1.0 mg/kg once daily 5 days a week until mice get moribund
Result:	Significantly reduced the leukemia burden, circulating and BM leukemic human $CD45^+$ cells. Dose-dependently prolonged the survival rate of mice.

REFERENCES

[1]. Nishida Y, et alJ. Inhibition of translation initiation factor eIF4a inactivates heat shock factor 1 (HSF1) and exerts anti-leukemia activity in AML. Leukemia. 2021 Sep;35(9):2469-2481.

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