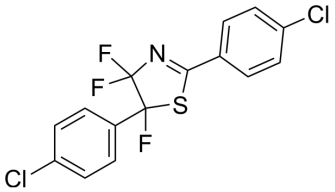
Fluorizoline

Cat. No.:	HY-114989
CAS No.:	1362243-70-6
Molecular Formula:	$C_{15}H_8Cl_2F_3NS$
Molecular Weight:	362.2
Target:	Apoptosis
Pathway:	Apoptosis
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (138.05 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.7609 mL	13.8045 mL	27.6091 mL
	5 mM	0.5522 mL	2.7609 mL	5.5218 mL
	10 mM	0.2761 mL	1.3805 mL	2.7609 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: 2.5 mg/mL (6.90 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (6.90 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.90 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Fluorizoline selectively and directly binds to prohibitin 1 (PHB1) and 2 (PHB2), and induces apoptosis. Fluorizoline reduces chronic lymphocytic leukemia (CLL) cell viability through the upregulation of NOXA and BIM. Fluorizoline exerts antitumor action in a p53-independent manner[1].

In Vitro

Fluorizoline (1.25-20 μM; 24 hours) induces apoptosis in primary CLL cells ex vivo[1].
?Fluorizoline (5-10 μM; 48 hours) causes an increase of NOXA protein levels[1].
?Fluorizoline reduces the percentage of viable normal B and T cells (48.6% and 82.8% of viable cells at 24 hours of treatment

with 10 μM Fluorizoline in normal $CD19^+$ and $CD3^+$ populations, respectively) with mean EC_{50} values of 10.9 μM and 19.1 μM at 24 hours for normal B and T cells, respectively[1].

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

Apoptosis Analysis[1]

Cell Line:	Primary CLL cells
Concentration:	1.25 to 20 μM
Incubation Time:	24 hours
Result:	Strongly reduced cell viability and induced apoptosis in a dose-dependent manner.

Western Blot Analysis[1]

Cell Line:	Primary CLL cells
Concentration:	5, 10 μM
Incubation Time:	48 hours
Result:	Caused an increase of NOXA protein levels.

In Vivo

Fluorizoline (15 mg/kg; ip; three times a week for five weeks) becomes very rapidly (3 weeks) leukemic, as reflected by the increase in the percentage and the number of $CD5^+CD19^+$ CLL cells in the blood in 6-week-old recipient C57BL/6 Eμ-TCL1 mouse model of CLL. Fluorizoline does not induce apoptosis in vivo. Fluorizoline does not control disease development in the spleen as indicated by enlarged spleens[2].

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

REFERENCES

[1]. Ana M Cosialls, et al. The prohibitin-binding compound fluorizoline induces apoptosis in chronic lymphocytic leukemia cells through the upregulation of NOXA and synergizes with ibrutinib, 5-aminoimidazole-4-carboxamide riboside or venetoclax. Haematologica. 2017 Sep;102(9):1587-1593.

[2]. Marina Wierz, et al. The prohibitin-binding compound fluorizoline induces apoptosis in chronic lymphocytic leukemia cells ex vivo but fails to prevent leukemia development in a murine model. Haematologica. 2018 Apr;103(4):e154-e157.

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