B I09

Cat. No.: HY-107400

CAS No.: 1607803-67-7

Molecular Formula: $C_{16}H_{17}NO_5$

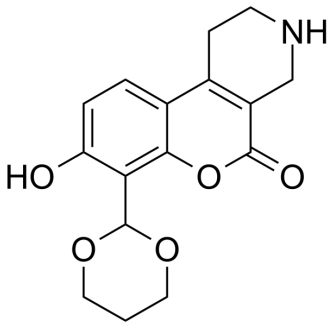
Molecular Weight: 303.31

Target: IRE1

Pathway: Cell Cycle/DNA Damage

Storage: 4°C, protect from light

* The compound is unstable in solutions, freshly prepared is recommended.



SOLVENT & SOLUBILITY

In Vitro

DMSO : 8.33 mg/mL (27.46 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.2970 mL	16.4848 mL	32.9696 mL
	5 mM	0.6594 mL	3.2970 mL	6.5939 mL
	10 mM	0.3297 mL	1.6485 mL	3.2970 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: 2.5 mg/mL (8.24 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

B I09 is an IRE-1 RNase inhibitor, with an IC_{50} of 1230 nM.

IC_{50} & Target

IC50: 1230 nM (IRE-1 RNase)[1].

In Vitro

B I09 is an IRE-1 RNase inhibitor, with an IC_{50} of 1230 nM[1]. Treatment of CLL cells with this inhibitor (B I09) mimick XBP-1 deficiency, including upregulation of IRE-1 expression and compromised BCR signaling. B I09 is highly effective in inhibiting splicing of XBP1 mRNA in human WaC3 cells and the expression of XBP-1s in LPS stimulated B cells[2].

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

In Vivo

B I09 has a halflife of approximately 1.5 hours and reaches its peak concentration of approximately 39 μM in mouse plasma serum 15 minutes after administration. Administration of B I09 to CLL tumor-bearing mice suppress leukemic progression by inducing apoptosis and do not cause systemic toxicity[2].

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

PROTOCOL

Animal Administration [2]	Mice[2] Mice are intraperitoneally injected with B I09 (50 mg/kg) on the first 5 days of each week for 3 weeks[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Patent. US20220381787A1.

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REFERENCES

[1]. Ranatunga S, et al. Synthesis of novel tricyclic chromenone-based inhibitors of IRE-1 RNase activity. J Med Chem. 2014 May 22;57(10):4289-301.

[2]. Tang CH, et al. Inhibition of ER stress-associated IRE-1/XBP-1 pathway reduces leukemic cell survival. J Clin Invest. 2014 Jun;124(6):2585-98.

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