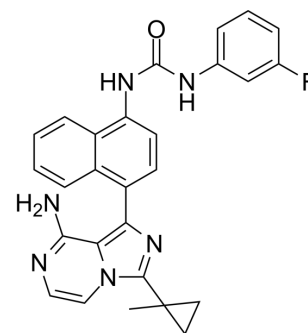


KIRA-7

Cat. No.:	HY-124646		
CAS No.:	1937235-76-1		
Molecular Formula:	C ₂₇ H ₂₃ FN ₆ O		
Molecular Weight:	466.51		
Target:	IRE1		
Pathway:	Cell Cycle/DNA Damage		
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 : 100 mg/mL (214.36 mM; Need ultrasonic)

Solvent	Mass	Concentration		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	2.1436 mL	10.7179 mL	21.4358 mL
	5 mM	0.4287 mL	2.1436 mL	4.2872 mL
	10 mM	0.2144 mL	1.0718 mL	2.1436 mL

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

BIOLOGICAL ACTIVITY

Description	KIRA-7, an imidazopyrazine compound, binds the IRE1 α kinase (IC ₅₀ of 110 nM) to allosterically inhibit its RNase activity. KIRA-7 has an anti-fibrotic effect ^[1] .
IC₅₀ & Target	IC50: 110 nM (IRE1 α kinase) ^[1]
In Vitro	KIRA-7 can inhibit XBP1 splicing in the alveolar epithelial cell line MLE12 ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	KIRA-7 (5 mg/kg; intraperitoneal injection; daily for 14 days; C57BL6 mice) treatment results in decreased spliced XBP1 and ATF4, compared to bleomycin exposed mice treated with vehicle. Likewise, mRNA levels of BiP and CHOP are significantly elevated after Bleomycin exposure, and treatment of Bleomycin-exposed mice with KIRA-7 decreased these levels. mRNA levels of collagen 1A1 and fibronectin are both significantly decreased by KIRA-7 treatment ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	C57BL6 mice (12 weeks of age) with Bleomycin (1.5 units/kg) ^[1]
Dosage:	5 mg/kg
Administration:	Intraperitoneal injection; daily; for 14 days
Result:	Resulted in decreased spliced XBP1 and ATF4. Likewise, mRNA levels of BiP and CHOP were significantly decreased.

REFERENCES

[1]. Thamsen M, et al. Small molecule inhibition of IRE1 α kinase/RNase has anti-fibrotic effects in the lung. PLoS One. 2019 Jan 9;14(1):e0209824.

Caution: Product has not been fully validated for medical applications. For research use only.

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