JNK-IN-14

Cat. No.: HY-156182

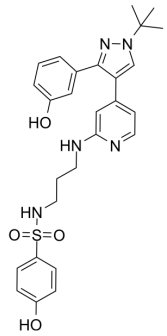
Molecular Formula: $C_{27}H_{31}N_5O_4S$

Molecular Weight: 521.63

Target: JNK; Cytochrome P450

Pathway: MAPK/ERK Pathway; Metabolic Enzyme/Protease

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

JNK-IN-14 is a potent JNK inhibitor with IC_{50} values of 1.81, 12.7 and 10.5 nM for JNK1, JNK2 and JNK3, respectively. JNK-IN-14 induces early-stage apoptosis. JNK-IN-14 shows cell population arrest at the G2/M phase and slightly inhibits beclin-1 production at K562 leukemia cells relative to SP600125 (HY-12041), showing higher inhibitory ability.[1]

IC_{50} & Target

JNK1	JNK2	JNK3	CYP2D6
1.82 nM (IC_{50})	10.5 nM (IC_{50})	10.5 nM (IC_{50})	26.7 ± 0.5 nM (IC_{50})

CYP3A4
383.0 ± 1. nM (IC_{50})

In Vitro

JNK-IN-14 (compound 11e) (2.5 μM-5 μM, 24 h) leads to slight early-stage apoptosis in a concentration-dependent manner in K562 cells[1].

JNK-IN-14 (1.25-5 μM, 24 h) arrests cell population in K562 at higher concentrations in comparison with SP600125, showing higher inhibitory ability.[1].

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

Apoptosis Analysis

Cell Line:	K562 Human Leukemia Cell
Concentration:	2.5 μM, 5 μM
Incubation Time:	24 h
Result:	Resulted in early-stage apoptosis with 1.94%, and 2.14% for 2.5 and 5 μM, respectively.

Cell Cycle Analysis[1]

Cell Line:	K562 human leukemia cell
Concentration:	1.25 μM, 2.56 μM, 5 μM
Incubation Time:	24 h
Result:	Showed viable cells arrest at the G2/M phase with values of 45.33% at 1.25 μM, 2.5 μM at 62.99%, and 5 μM at 98.97%.

REFERENCES

[1]. Karim I Mersal, et al. Evaluation of novel pyrazol-4-yl pyridine derivatives possessing arylsulfonamide tethers as c-Jun N-terminal kinase (JNK) inhibitors in leukemia cells.Eur J Med Chem. 2023 Sep 15:261:115779.

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