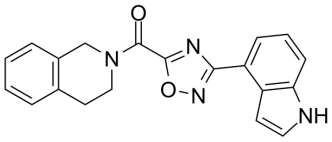
ZINC12409120

Cat. No.:	HY-150687
CAS No.:	1010888-06-8
Molecular Formula:	$C_{20}H_{16}N_4O_2$
Molecular Weight:	344.37
Target:	ERK
Pathway:	MAPK/ERK Pathway; Stem Cell/Wnt
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	ZINC12409120 is a high selective ERK inhibitor. ZINC12409120 acts on disrupting FGF23:α-Klotho interaction to inhibit ERK activity with an IC_{50} of 5.0 μM[1].
IC_{50} & Target	ERK 5 μM (IC_{50})
In Vitro	FGF23 induces hypophosphatemia, mediated by ternary complex formed by FGF23, the FGF receptor (FGFR), and α-Klotho[1]. ZINC12409120 (1 nM-0.1 mM; 5 h) inhibits ERK reporter activities mediated by FGF23 (1 μM), with an IC_{50} of 5 μM[1]. ZINC12409120 (10 μM; 5 h) specificaly inhibits ERK activity mediated by FGF23:α-Klotho instead of EGF-mediated ERK activation, and exhibits no inhibitory effect on EGFR tyrosine kinase or EGF/EGFR interaction[1]. ZINC12409120 has an half-life of 8.4 h, predicted by pkCSM64 (http://biosig.unimelb.edu.au/pkcsm/)[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	Human embryonic kidney (HEK) 293T cells
Concentration:	1 nM-0.1 mM
Incubation Time:	5 hours
Result:	Inhibited FGF23-mediated ERK reporter activity in a dose-dependent manner, with an IC_{50} of 5 μM. And reduced FGF23-mediated ERK activities by 70%, as well.

REFERENCES

[1]. Liu SH, et al. Identification of Small-Molecule Inhibitors of Fibroblast Growth Factor 23 Signaling via In Silico Hot Spot Prediction and Molecular Docking to α-Klotho. J Chem Inf Model. 2022 Jul 22.

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

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