

Product Datasheet

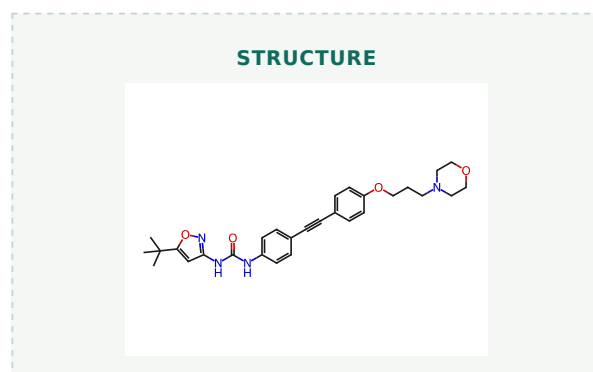
Clifutinib

Catalog No. **BP-01938** · CAS **1862226-99-0** · Form **free base** · Physical state **solid** · Color **white to off-white** · Version **1.0** · Revision **2026-09-03**

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Target	Research area
FLT3; Apoptosis; Ras; p38 MAPK; PI3K; Akt; JAK; STAT	Cancer

Molecular formula	C₂₉H₃₄N₄O₄
Molecular weight	502.6047



DESCRIPTION

Clifutinib (Compound 9e) is an orally active and selective internal tandem duplication mutation of FMS-like tyrosine kinase 3 (FLT3-ITD) inhibitor with an IC₅₀ value of 15.1 nM. Clifutinib inhibits the activity of FLT3-ITD kinase and blocks the downstream RAS/MAPK, PI3K/AKT, and JAK/STAT5 signaling pathways of FLT3. Clifutinib is promising for research of relapsed/refractory FLT3-ITD-positive acute myeloid leukemia.

BIOLOGICAL ACTIVITY

In Vitro

Clifutinib (72 h) shows anti-proliferative activities against MV-4-11 AML cells and MOLM-13 cells, with IC₅₀s of 1.5 nM and 1.4 nM, respectively.

Clifutinib (9e, 0.1-1000 nM, 72 h) exhibits potent antiproliferative activity against Ba/F3 cells expressing FLT3 mutant isoforms, while showing no antiproliferative effect on parental Ba/F3 cells with IC₅₀ > 1000 nM.

Clifutinib (1-100 nM, 48-72 h) induces apoptosis in MV-4-11 cells in a dose-dependent manner.

Clifutinib (1-1000 nM, 2 h) inhibits the phosphorylation of FLT3, ERK, AKT, and STAT5 in MV-4-11 cells in a dose-dependent manner without affecting total protein levels.

In Vivo

Clifutinib (0.5-20 mg/kg, p.o., once daily, 8,10 or 21 days) demonstrates significant antitumor efficacy in NOD/SCID mice bearing MV-4-11 or MOLM-13 xenografts.

SOLUBILITY

Soluble in DMSO

REFERENCES

[1]. Liu B, et al. Discovery of FLT3-ITD Inhibitor Clifutinib: A Novel Biphenylacetylene Urea Derivative in Clinical Trials for the Treatment of Relapsed/Refractory FLT3-ITD+ Acute Myeloid Leukemia. J Med Chem. 2025 Apr 24;68(8):7955-7972.

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