Product Datasheet

Voruciclib

Catalog No. **BP-02317** · CAS **1000023-04-0** · Form **free base** · Physical state **solid** · Color **Light yellow to yellow** · Version **1.0** · Revision **2026-09-10**

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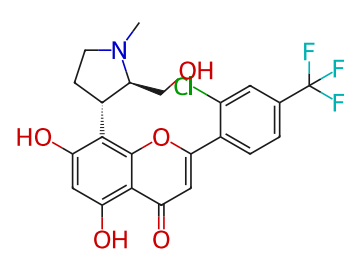
Target	Research area
CDK	**Cancer**

Molecular formula	**$C_{22}H_{19}ClF_3NO_5$**
Molecular weight	**469.8380**

STRUCTURE



DESCRIPTION

Voruciclib (P1446A-05) is a novel multi-CDK inhibitor with IC50s of 90nM, 25nM, and 22nM for CDK4-CyclinD1, CDK1-Cyclin B, and CDK9-Cyclin T, respectively. Voruciclib specifically inhibits CDK4-mediated G1-S phase transition, arresting cell cycling and inhibiting cancer cell growth. The serine/threonine kinase CDK4 is found in a complex with D-type G1 cyclins and is the first kinase to become activated upon mitogenic stimulation, releasing cells from a quiescent stage into the G1/S growth cycling stage; CDK-cyclin complexes have been shown to phosphorylate the retinoblastoma (Rb) transcription factor in early G1, displacing histone deacetylase (HDAC) and blocking transcriptional repression.

BIOLOGICAL ACTIVITY

In Vitro

Voruciclib (0.5-5 μM; 6 hours) shows targeted downregulation of MCL-1 in both ABC and GCB subtypes[1].

Ki values for each target such as CDK9/cyc T2, CDK9/cyc T1, CDK6/cyc D1, CDK4/cyc D1, CDK1/cyc B, and CDK1/cyc A for Voruciclib hydrochloride are 0.626 nM, 1.68 nM, 2.92 nM, 3.96 nM, 5.4 nM, 9.1 nM, respectively.

In Vivo

Combination of Voruciclib hydrochloride (200 mpk; Oral gavage) and Venetoclax (10 mpk, 1 mpk, 50 mpk, 25 mpk in U2932, RIVA, SU-DHL-4 and NU-DHL-1, respectively) leads to enhance tumor growth inhibition compared to either drug alone in U2932, RIVA, SU-DHL-4 (six days per week for 4 weeks), and NU-DHL-1 models (five days per week for 3 weeks) of DLBCL.

SOLUBILITY

Soluble in DMSO, not in water

REFERENCES

[1]. Dey J, et al. Voruciclib, a clinical stage oral CDK9 inhibitor, represses MCL-1 and sensitizes high-risk Diffuse Large B-cell Lymphoma to BCL2 inhibition. Sci Rep. 2017 Dec 21;7(1):18007.

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