Product Datasheet

BLU-9931

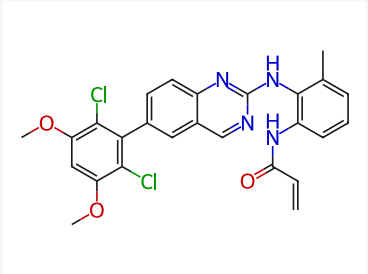
Catalog No. **BP-01897** · CAS **1538604-68-0** · Form **free base** · Physical state **solid** · Color **White to light yellow** · Version **1.0** · Revision **2026-09-04**

FOR RESEARCH USE ONLY. NOT FOR HUMAN OR VETERINARY USE.

Target	Research area
FGFR	**Cancer**

Molecular formula	$C_{26}H_{22}Cl_2N_4O_3$
Molecular weight	**509.3840**

STRUCTURE



DESCRIPTION

BLU9931 is a potent, highly selective, and irreversible fibroblast growth factor receptor 4 (FGFR4) inhibitor with an IC50 of 3 nM and a Kd of 6 nM. BLU9931 has significant antitumor activity.

BIOLOGICAL ACTIVITY

In Vitro

BLU9931 inhibits proliferation of HCC cell lines that express an intact FGFR4 signaling complex, with EC50s of 0.07 μM, 0.11 μM and 0.02 μM for Hep 3B, HuH7 and JHH7 cells, respectively.

BLU9931 (0.3-300 nM; 1 hour; MDA-MB-453 and Hep 3B cells) treatment demonstrates potent, dose-dependent reduction of phosphorylation of FGFR4 signaling pathway components, including fibroblast growth factor receptor substrate 2 (FRS2), MAPK, and AKT in MDA-MB-453 cells. BLU9931 shows dose-dependent inhibition of the signaling cascade downstream of FGFR4. BLU9931 exhibits potent inhibition of phosphorylation of the FGFR4 pathway components in Hep 3B cells. BLU9931 treatment leads to induction of caspase-3/7 activity, indicative of induction of apoptosis that results in inhibition of signaling downstream of FGFR4.

BLU9931 (100 nM; 0 -24 hours; Hep 3B cells) treatment increases CYP7A1 mRNA expression and the expression of the proliferative marker EGR1 is inhibited.

In Vivo

BLU9931 (10-100 mg/kg; oral administration; twice every day; for 21 days; mice) treatment demonstrates antitumor activity in HCC xenograft models.

SOLUBILITY

Soluble in DMSO

REFERENCES

[1]. Hagel M, et al. First Selective Small Molecule Inhibitor of FGFR4 for the Treatment of Hepatocellular Carcinomas with an Activated FGFR4 Signaling Pathway. Cancer Discov. 2015 Apr;5(4):424-37.