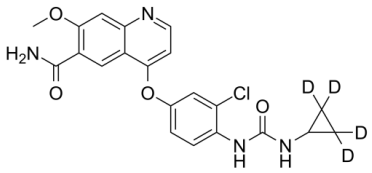
Data Sheet

Product Name:	Lenvatinib-d4
Cat. No.:	CS-0374416
CAS No.:	2264050-65-7
Molecular Formula:	$C_{21}H_{15}D_4ClN_4O_4$
Molecular Weight:	430.88
Target:	c-Kit; FGFR; PDGFR; RET; VEGFR
Pathway:	Protein Tyrosine Kinase/RTK
Solubility:	10 mM in DMSO



BIOLOGICAL ACTIVITY:

Lenvatinib-d4 (E7080-d4) is the deuterium labeled Lenvatinib. Lenvatinib (E7080) is an oral, multi-targeted tyrosine kinase inhibitor that inhibits **VEGFR1-3**, **FGFR1-4**, **PDGFR**, **KIT**, and **RET**, shows potent antitumor activities[1][2]. **In Vitro:** Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1].

References:

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.

[2]. Kudo M, et al. Lenvatinib versus Bay 43-9006 in first-line treatment of patients with unresectable hepatocellularcarcinoma: a randomised phase 3 non-inferiority trial. Lancet. 2018 Mar 24;391(10126):1163-1173.

[3]. Suyama K, et al. Lenvatinib: A Promising Molecular Targeted Agent for Multiple Cancers. Cancer Control. 2018 Jan-Dec;25(1):1073274818789361.

[4]. Matsui J, et al. E7080, a novel inhibitor that targets multiple kinases, has potent antitumor activities against stem cell factor producing human small cell lung cancer H146, based on angiogenesis inhibition. Int J Cancer. 2008, 122(3), 664-671.

[5]. Matsui J, et al. Multi-kinase inhibitor E7080 suppresses lymph node and lung metastases of human mammary breast tumor MDA-MB-231 via inhibition of vascular endothelial growth factor-receptor (VEGF-R) 2 and VEGF-R3 kinase. Clin Cancer Res. 2008, 14(17),545.

CAIndexNames:

6-Quinolinecarboxamide, 4-[3-chloro-4-[[(cyclopropyl-2,2,3,3-d4-amino)carbonyl]amino]phenoxy]-7-methoxy-

SMILES:

O=C(C1=C(OC)C=C2N=CC=C(OC3=CC=C(NC(NC4C([2H])(C4([2H])[2H])[2H])=O)C(Cl)=C3)C2=C1)N

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

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