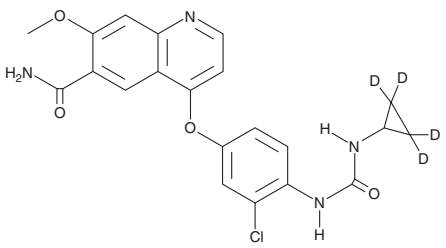
PRODUCT INFORMATION

Lenvatinib-d_4

Item No. 28615

CAS Registry No.: 2264050-65-7
Formal Name: 4-[3-chloro-4-[[(cyclopropyl-2,2,3,3-d_4-amino)carbonyl]amino]phenoxy]-7-methoxy-6-quinolinecarboxamide
MF: $C_{21}H_{15}D_4ClN_4O_4$
FW: 430.9
Chemical Purity: ≥98% (Lenvatinib)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_4); ≤1% d_0
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Lenvatinib-d_4 is intended for use as an internal standard for the quantification of lenvatinib (Item No. 19375) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Lenvatinib-d_4 is supplied as a solid. A stock solution may be made by dissolving the lenvatinib-d_4 in the solvent of choice, which should be purged with an inert gas. Lenvatinib-d_4 is soluble in organic solvents such as methanol, DMSO, and dimethyl formamide.

Description

Lenvatinib is an inhibitor of the receptor tyrosine kinases VEGF receptor 2 (VEGFR2) and VEGFR3 (IC_{50}s = 4.0 and 5.2 nM, respectively).[1,2] It is slightly less potent against the related kinases VEGFR1, FGFR1, PDGFRα, PDGFRβ, and Kit (IC_{50}s = 22, 46, 51, 39, and 100 nM, respectively).[1] Lenvatinib (30 mg/kg, twice per day) reduces tumor growth in an H146 small cell lung cancer mouse xenograft model and induces tumor regression when administered at a dose of 100 mg/kg twice per day. Formulations containing lenvatinib have been used in the treatment of differentiated thyroid cancer, renal cell carcinoma, and hepatocellular carcinoma.

References

1. Matsui, J., Yamamaoto, Y., Funahashi, Y., *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* **122(3)**, 664-671 (2008).
2. Matsui, J., Funahashi, Y., Uenaka, T., *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.* **14(17)**, 5459-5465 (2008).

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