Product Data Sheet

Product Name: PLX-4720-d7
Cat. No.: GC62206

Chemical Properties

Cas. No.	1304096-50-1		
Formula	$C_{17}H_7D_7ClF_2N_3O_3S$	M.Wt	420.87
Solubility		Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	PLX-4720-d7		

Background

PLX-4720-d7 is the deuterium labeled PLX-4720. PLX-4720 is a potent and selective inhibitor of B-RafV600E with an IC50 of 13 nM in a cell-free assay, equally potent to c-Raf-1(Y340D and Y341D mutations), and 10-fold selectivity for B-RafV600E than wild-type B-Raf[1][2].

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].

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.
[2]. Tsai J, et al. Discovery of a selective inhibitor of oncogenic B-Raf kinase with potent antimelanoma activity. Proc Natl Acad Sci U S A, 2008, 105(8), 3041-3046.
[3]. Paraiso KH, et al. PTEN loss confers BRAF inhibitor resistance to melanoma cells through the suppression of BIM expression. Cancer Res, 2011, 71(7), 2750-2760.
[4]. Nucera C, et al. B-Raf(V600E) and thrombospondin-1 promote thyroid cancer progression. Proc Natl Acad Sci U S A, 2010, 107(23), 10649-10654.

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[5]. Rizzolio S, et al. Neuropilin-1 upregulation elicits adaptive resistance to oncogene-targeted therapies. J Clin Invest. 2018 Aug 31;128(9):3976-3990.