Product Data Sheet

Product Name: VPS34 inhibitor 1 (Compound 19)
Cat. No.: GC26044

Chemical Properties

Cas. No.	1383716-46-8		
Formula	C21H25N7O	M.Wt	391.47
Solubility	DMSO: 78 mg/mL (199.25 mM);Water: Insoluble;Ethanol: Insoluble	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			

Background

VPS34 inhibitor 1 (Compound 19, PIK-III analogue) is a potent and selective inhibitor of VPS34 with an IC50 of 15 nM.

Compound 19 is extraordinarily selective over other lipid and protein kinases. The ability of compound 19 to prevent the degradation of autophagy substrates p62, NCOA4, NBR1, NDP52, and FTH1 is similar to PIK-III. In addition, treatment of cells with compound 19 leads to an increase in the lipidated and nonlipidated forms of LC3 similar to previous reports using PIK-III[1].

The pharmacokinetic profile of analogue 19 is determined in C57BL/6 mice. After oral administration at 10 mg/kg, the compound is rapidly absorbed and showed moderate mean systemic clearance (30 mL/min/kg, approximately 33% of hepatic blood flow), with good oral bioavailability (F% = 47). Based on these PK parameters and the cellular activity, compound 19 constitutes a suitable candidate for in vivo studies. Upon oral administration of compound 19 at 50 mg/kg twice a day (BID) for 7 days, LC3-II accumulates consistent with reduced autophagic capacity in time-dependent manner. It inhibits autophagy in vivo[1].

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[1] Honda A, et al. ACS Med Chem Lett. 2015, 7(1):72-6.

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