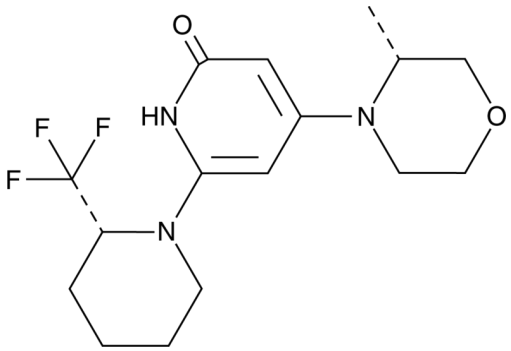
Product Data Sheet

Product Name: SB-02024
Cat. No.: GC91956

Chemical Properties

Cas. No.	2126737-28-6		
Chemical Name	4-[(3R)-3-methyl-4-morpholinyl]-6-[(2R)-2-(trifluoromethyl)-1-piperidinyl]-2(1H)-pyridinone		
SMILES	C[C@H](COCC1)N1C2=CC(NC(N(CCCC3)[C@H]3C(F)(F)F)=C2)=O		
Formula	$C_{16}H_{22}F_3N_3O_2$	M.Wt	345.4
Solubility	Acetonitrile: Slightly soluble: 0.1-1 mg/ml,DMSO: Sparingly soluble: 1-10 mg/ml	Storage	-20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C 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

SB-02024 is an inhibitor of vacuolar protein sorting 34 (VPS34; IC_{50} = 5 nM).[1] It selectively binds to VPS34 (K_d = 0.0011 ?M) over eight other PI3K kinases (K_ds = 1.2693->30 ?M), mTOR (K_d = 1.0199 ?M), a panel of 468 kinases at 1 ?M, and an additional panel of 97 kinases at 1 ?M.[2] SB-02024 (0.7 ?M) inhibits autophagic flux in H1299 cells. *In vivo*, SB-02024 (20 mg/kg) enhances increases in survival when used in combination with an antibody targeting programmed cell death protein 1 (PD-1)

or PD-1 ligand (PD-L1) in B16/F10 murine melanoma and CT26 murine colorectal cancer models.[3] SB-02024 (20 mg/kg) also enhances increases in survival and decreases in tumor volume when used in combination with the STING agonist ADU-S100 in a B16/F10 murine melanoma model.[1]

References:

[1]. Yu, Y., Bogdan, M., Noman, M.Z., et al.Combining VPS34 inhibitors with STING agonists enhances type I interferon signaling and anti-tumor efficacyMol. Oncol.18(8)1904-1922(2024).
[2]. Dyczynski, M., Yu, Y., Otrocka, M., et al.Targeting autophagy by small molecule inhibitors of vacuolar protein sorting 34 (Vps34) improves the sensitivity of breast cancer cells to SunitinibCancer Lett.43532-43(2018).
[3]. Noman, M.Z., Parpal, S., Van More, K., et al.Inhibition of Vps34 reprograms cold into hot inflamed tumors and improves anti-PD-1/PD-L1 immunotherapySci. Adv.6(18)eaax7881(2020).