

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

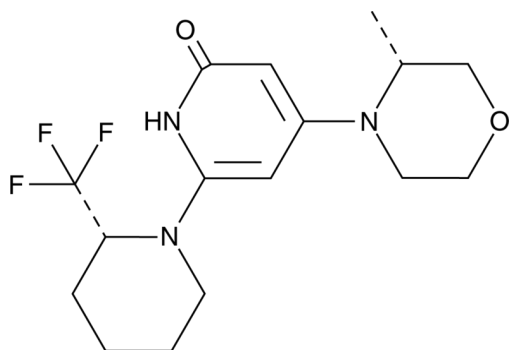
Formula $C_{16}H_{22}F_3N_3O_2$ M.Wt 345.4

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; $IC_{50} = 5 \text{ nM}$).¹ It selectively binds to VPS34 ($K_d = 0.0011 \text{ ?M}$) over eight other PI3K kinases (K_d s = $1.2693 \rightarrow 30 \text{ ?M}$), mTOR ($K_d = 1.0199 \text{ ?M}$), 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).

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

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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 efficacy *Mol. 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 Sunitinib *Cancer 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 immunotherapy *Sci. Adv.* 6(18)eaax7881(2020).

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