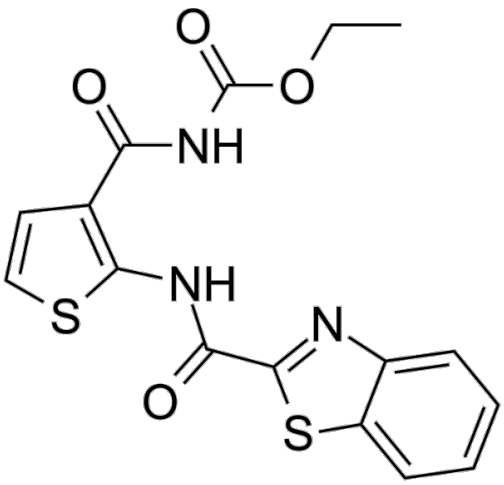
Product Data Sheet

Product Name: TCA1
Cat. No.: GC63789

Chemical Properties

Cas. No.	864941-32-2		
Formula	C16H13N3O4S2	M.Wt	375.42
Solubility	DMSO : 125 mg/mL (332.96 mM; Need ultrasonic)	Storage	Store at -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

TCA1 is a small molecule with activity against drug-susceptible and -resistant Mycobacterium tuberculosis (Mtb). TCA1 inhibits enzymes involved in cell wall and molybdenum cofactor

biosynthesis, such as DprE1 and MoeW[1].

TCA1 shows bactericidal activity against both replicating (WT and drug resistant) and nonreplicating Mycobacterium tuberculosis (Mtb). TCA1 inhibits biofilm formation by Mtb H37Rv[1]. TCA1 shows selective inhibitory activity against bacterial growth-it is inactive against Escherichia coli, Staphylococcus aureus, and Pseudomonas aeruginosa, suggesting that the target for its bactericidal activity is specific to the genus Mycobacterium[1].

TCA1 (40 mg/kg; oral gavage; 1 time/d for 5 d/week; for 4 weeks) is efficacious in acute and chronic Mtb infection mouse models[1].In a mouse model of Mtb infection, after i.v. administration, TCA1 exhibits a low clearance and steady-state volume of distribution, with an elimination half-life of 0.73 h. After oral administration of 20 and 50 mg/kg in solution formulation, TCA1 shows a high Cmax (2122 and 5653 nM, respectively), moderate exposure with oral bioavailability ranging from 19% to 46%, and a half-life of 1.8 h[1].BALB/c mice infected with Mtb H37Rv[1]40 mg/kgOral gavage; 1 time/d for 5 d/week; for 4 weeksEffectively inhibits Mtb in vivo.

[1]. Feng Wang, et al. Identification of a small molecule with activity against drug-resistant and persistent tuberculosis. Proc Natl Acad Sci U S A. 2013 Jul 2;110(27):E2510-7.