

TBA-354

Chemical Properties

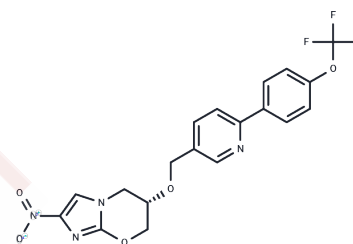
CAS No. : 1257426-19-9

Formula: C₁₉H₁₅F₃N₄O₅

Molecular Weight: 436.34

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	TBA-354 is anti-tuberculous and active against Mycobacterium tuberculosis strain H37Rv.
Targets(IC50)	Antibacterial,Antibiotic
In vitro	TBA-354 is narrow spectrum and bactericidal in vitro against replicating and nonreplicating Mycobacterium tuberculosis, with potency similar to that of delamanid and greater than that of PA-824. TBA-354 maintains activity against Mycobacterium tuberculosis H37Rv isogenic mono-resistant strains and Clinical drug-sensitive and drug-resistant isolates [1]. TBA-354 is 5 to 10 times more potent than PA-824, but selected mutants are cross-resistant to PA-824 and delamanid. TBA-354 is 2 to 4 times more potent than PA-824 when combined with bedaquiline, and when administered at a dose equivalent to that of PA-824, TBA-354 demonstrated superior sterilizing efficacy [2].
In vivo	TBA-354 has high bioavailability and a long elimination half-life. In vitro studies suggest a low risk of drug-drug interactions. Low-dose aerosol infection models of acute and chronic murine tuberculosis reveal time- and dose-dependent in vivo bactericidal activity that is at least as potent as that of delamanid and more potent than that of PA-824.

Solubility Information

Solubility	DMSO: 55 mg/mL (126.05 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2.5 mg/mL (5.73 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2918 mL	11.459 mL	22.9179 mL
5 mM	0.4584 mL	2.2918 mL	4.5836 mL
10 mM	0.2292 mL	1.1459 mL	2.2918 mL
50 mM	0.0458 mL	0.2292 mL	0.4584 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Upton AM, et al. Antimicrob Agents Chemother. 2015 Jan;59(1):136-44.

Tasneen R, et al. Antimicrob Agents Chemother. 2015 Jan;59(1):129-35.

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