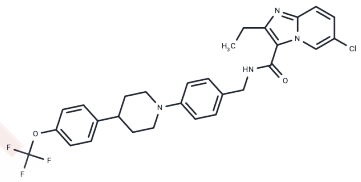
Data Sheet (Cat.No.T5400)

TargetMol

Q203

Chemical Properties



CAS No. : 1334719-95-7

Formula: C29H28ClF3N4O2

Molecular Weight: 557.01

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	Q203 (Telacebec) is a novel potent anti-tuberculosis agent targeting cytochrome b subunit qcrB and inhibits M. tuberculosis H37Rv (MIC50: 2.7 nM).
Targets(IC50)	Antibacterial,Antibiotic
In vitro	Q203 was active against the reference strain M. tuberculosis H37Rv at a minimum concentration required to inhibit the growth of 50% of organisms (MIC50) of 2.7 nM in culture broth medium and at an MIC50 of 0.28 nM inside macrophages [1]. Verapamil increased the potency of Q203 against Mycobacterium tuberculosis both in vitro and ex vivo [2]. Inhibition of cytochrome bd, a parallel branch of the mycobacterial respiratory chain, by aurachin D invoked bactericidal activity of Q203. Inhibition of respiratory chain activity by Q203 was incomplete, but could be enhanced by inactivation of cytochrome bd, either by genetic knock-out or by inhibition with aurachin D [3].
In vivo	Q203 had a bioavailability of 90% and a terminal half-life of 23.4 h. The volume of distribution was moderate (5.27 l per kg body weight), and the systemic clearance was low (4.03 ml/min/kg). It promoted a reduction in bacterial load of more than 90% at a dose of 10 mg per kg body weight, an effect comparable to that of bedaquiline or isoniazid [1].

Solubility Information

Solubility	DMSO: 11 mg/mL (19.75 mM),Sonication is recommended. H2O: Insoluble, (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.7953 mL	8.9765 mL	17.953 mL
5 mM	0.3591 mL	1.7953 mL	3.5906 mL
10 mM	0.1795 mL	0.8976 mL	1.7953 mL
50 mM	0.0359 mL	0.1795 mL	0.3591 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

Pethe K, et al. Discovery of Q203, a potent clinical candidate for the treatment of tuberculosis. Nat Med. 2013 Sep; 19(9):1157-60.
Jang J, et al. Efflux Attenuates the Antibacterial Activity of Q203 in Mycobacterium tuberculosis. Antimicrob Agents Chemother. 2017 Jun 27;61(7). pii: e02637-16.
Lu P, et al. The anti-mycobacterial activity of the cytochrome bcc inhibitor Q203 can be enhanced by small-molecule inhibition of cytochrome bd. Sci Rep. 2018 Feb 8;8(1):2625.

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