Product Data Sheet

Product Name: Pretomanid-d4
Cat. No.: GC63359

Chemical Properties

Cas. No.	1346617-34-2		
Formula	$C_{14}H_8D_4F_3N_3O_5$	M.Wt	363.28
Solubility	DMSO : 125 mg/mL (344.09 mM; Need ultrasonic)	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ 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	Pretomanid-d4		

Background

Pretomanid-d4 (PA-824-d4) is the deuterium labeled Pretomanid. Pretomanid (PA-824) is an antibiotic used for the research of multi-drug-resistant tuberculosis affecting the lungs. Pretomanid exhibits a sub-micromolar MIC against M. tuberculosis (MTB). The MIC values of PA-824 against a panel of MTB pan-sensitive and Rifampin mono-resistant clinical isolates range from 0.015 to 0.25 μg/mL[1][2].

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1].

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.
[2]. Stover CK, et al. A small-molecule nitroimidazopyran drug candidate for the treatment of tuberculosis. Nature. 2000 Jun 22;405(6789):962-6.
[3]. Lenaerts AJ, et al. Preclinical testing of the nitroimidazopyran PA-824 for activity against Mycobacterium tuberculosis in a series of in vitro and in vivo models. Antimicrob Agents Chemother. 2005 Jun;49(6):2294-301.

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[4]. Manjunatha UH, et al. Mycobacterium leprae is naturally resistant to PA-824. Antimicrob Agents Chemother. 2006 Oct;50(10):3350-4.

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