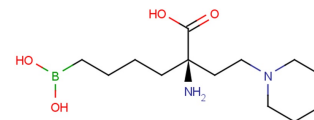


Arginase inhibitor 1

Chemical Properties

CAS No.:	1345808-25-4
Formula:	C ₁₃ H ₂₇ BN ₂ O ₄
Molecular Weight:	286.18
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).



Biological Description

Description	Arginase inhibitor 1 is a potent inhibitor of human arginases I and II (IC ₅₀ s: 223 and 509 nM).
Targets(IC ₅₀)	arginases I: 223 nM arginases II: 509 nM
In vitro	Arginase inhibitor 1 is an arginase inhibitor with significant activity in a rat model of myocardial ischemia/reperfusion injury (MI/RI). Arginase inhibitor 1 is potent against hARG I in both in vitro enzyme and cellular assays. The IC ₅₀ for Arginase inhibitor 1 is 8 μM in CHO Cells Over-Expressing hArgI
In vivo	Pharmacokinetic evaluation of Arginase inhibitor 1 is conducted after intravenous (i.v.) and oral (p.o.) dosing in male Sprague-Dawley rats (n=3 per dose route). Arginase inhibitor 1 is formulated in 0.9% saline and administered intravenously at 10 mg/kg by bolus through a pre-implanted cannula at a dosing volume of 1 mL/kg, and orally at 10 mg/kg via gavage at a dosing volume of 2 mL/kg. Following i.v. dosing with 10 mg/kg in fasted animals, Arginase inhibitor 1 has a terminal elimination half-life (t _{1/2}) of 3.3 h with a volume of distribution and total body clearance of 1.86 L/kg and 7.89 mL/min/kg, respectively. The oral bioavailability of Arginase inhibitor 1 (10 mg/kg, p.o.) is 28% with a C _{max} of 0.45 mg/L.

Solubility Information

Solubility	DMSO: 48 mg/mL (167.73 mM) H ₂ O: 30 mg/mL (104.83 mM) (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.494 mL	17.472 mL	34.943 mL
5 mM	0.699 mL	3.494 mL	6.989 mL
10 mM	0.349 mL	1.747 mL	3.494 mL
50 mM	0.07 mL	0.349 mL	0.699 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

1. Van Zandt MC, et al. Discovery of (R)-2-amino-6-borono-2-(2-(piperidin-1-yl)ethyl)hexanoic acid and congeners as highly potent inhibitors of human arginases I and II for treatment of myocardial reperfusion injury. J Med Chem. 2013 Mar 28;56(6):2568-80.

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