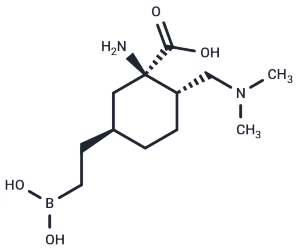
Data Sheet (Cat.No.T79319)

TargetMol

OATD-02

Chemical Properties



CAS No. : 2146132-73-0

Formula: C12H25BN2O4

Molecular Weight: 272.15

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	OATD-02 is an orally active, competitive, reversible, noncovalent dual inhibitor of Arginase 1 and Arginase 2 that exhibits slow dissociation kinetics and nanomolar potency across human and murine arginases, effectively reversing arginase-mediated tumor immunosuppression and enabling mechanistic studies in melanoma immunotherapy research.
Targets(IC50)	Arginase
In vitro	In enzymatic assays, OATD-02 inhibited recombinant human ARG1/ARG2 (IC50 20/39 nM) and rodent ARG1 variants. In cellular models, it inhibited human ARG2 in CHO-K1 cells (IC50 171.6 nM) and mouse ARG in bone marrow macrophages (IC50 912.9 nM), while showing a significantly higher IC50 (13 mM) for ARG1 in human primary hepatocytes [1].
In vivo	Oral administration of OATD-02 (10 mg/kg) demonstrates bioavailability of 13% in mice, 30% in rats, and 61% in dogs. A dosage of 5 mg/kg maintained a 4-fold increase in plasma L-arginine levels one week after treatment cessation. In a B16F10 orthotopic melanoma model, treatment with OATD-02 (50 mg/kg, twice daily, p.o.) for 15 days resulted in a Tumor Growth Inhibition (TGI) of 46% [1].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.6744 mL	18.3722 mL	36.7444 mL
5 mM	0.7349 mL	3.6744 mL	7.3489 mL
10 mM	0.3674 mL	1.8372 mL	3.6744 mL
50 mM	0.0735 mL	0.3674 mL	0.7349 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

Borek B, et al. Arginase 1/2 Inhibitor OATD-02: From Discovery to First-in-man Setup in Cancer Immunotherapy. Mol Cancer Ther. 2023;22(7):807-817.