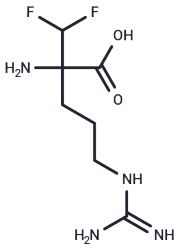
Data Sheet (Cat.No.T35449)

TargetMol

α-(difluoromethyl)-DL-Arginine

Chemical Properties



CAS No. : 69955-43-7

Formula: C7H14F2N4O2

Molecular Weight: 224.21

Storage: Keep away from moisture
Pure form: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	α-(difluoromethyl)-DL-Arginine (RMI 71897) is an enzyma-activated, irreversible inhibitor of arginine decarboxylase for E. coli (Ki = 800 μM), Pseudomonas aeruginosa, and Klebsiella pneumoniae. At 0.01 mM, it has been shown to prevent osmotic stress-induced increases in arginine decarboxylase activity and putrescine synthesis in oat leaf cells. When combined with a variety of polyamine analogues, α-(difluoromethyl)-DL-Arginine inhibited the growth of Trypanosoma Crui in mammalian host cells at a minimum concentration of 10 mM and prevented the growth of Trypanosoma Crui in T-cell receptor alpha-deficient mouse models.
Targets(IC50)	Others

Solubility Information

Solubility	PBS (pH 7.2): 5 mg/mL (22.3 mM),Sonication is recommended. DMSO: 7.7 mg/mL (34.34 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	PBS: 4.5 mg/mL (20.07 mM),Solution. *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.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.4601 mL	22.3005 mL	44.601 mL
5 mM	0.892 mL	4.4601 mL	8.9202 mL
10 mM	0.446 mL	2.2301 mL	4.4601 mL
50 mM	0.0892 mL	0.446 mL	0.892 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

Gill, S.S., et al. Polyamines and abiotic stress tolerance in plants. Plant Signal. Behav. 5(1), 26-33 (2010).
A Kallio, et al. DL-α-(Difluoromethyl)arginine: A potent enzyme-activated irreversible inhibitor of bacterial decarboxylases. Biochemistry 20(11), 3163-3168 (1981).
Tiburcio, A.F, et al. Polyamine metabolism and osmotic stress. II. Improvement of oat protoplasts by an inhibitor of arginine decarboxylase. Plant Physiology 82, 375-378 (1986).
Flores, H.E, et alPolyamines and plant stress: Activation of putrescine biosynthesis by osmotic shock. Science 217 (4566), 1259-1261 (1982).
Kierszenbaum, F, et al. Arginine decarboxylase inhibitors reduce the capacity of Trypanosoma cruzi to infect and multiply in mammalian host cells. Proceedings of the National Academy of Sciences of the United States of America 84(12), 4278-4282 (1987).
Nigel Yarlett, et al. Activities of DL-α-difluoromethylarginine and polyamine analogues against Cryptosporidium parvum infection in a T-cell receptor α-deficient mouse model. Antimicrobial Agents and Chemotherapy 51(4), 1234-1239 (2007).