

Eflornithine

Chemical Properties

CAS No. :	70052-12-9
Formula:	C ₆ H ₁₂ F ₂ N ₂ O ₂
Molecular Weight:	182.17
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	Eflornithine (DFMO) is a selective and orally available ornithine decarboxylase inhibitor that delays hair overgrowth. Eflornithine is used in the study of African trypanosomiasis, malignant glioma, and sleeping sickness.
Targets(IC50)	Parasite
In vivo	Eflornithine is the only newly registered molecule for the treatment of human African trypanosomiasis in the past 50 years, mainly serving as a back-up for melarsoprol refractory <i>Trypanosoma brucei gambiense</i> cases[1]. In subjects with excessive facial hair, eflornithine 15% cream reduces hair growth more effectively than placebo, with 58% of eflornithine users showing improvement after 24 weeks compared to 34% for placebo[2]. The hair growth inhibitory effect is significantly enhanced when eflornithine cream is applied to mouse skin pretreated with microneedles[3]. In coarctation hypertensive rats, eflornithine treatment normalizes contractile responses to KCl and norepinephrine and acetylcholine-induced relaxations after 14 days[4].

Solubility Information

Solubility	H ₂ O: 50 mg/mL (274.47 mM), Sonication and heating are recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.4894 mL	27.4469 mL	54.8938 mL
5 mM	1.0979 mL	5.4894 mL	10.9788 mL
10 mM	0.5489 mL	2.7447 mL	5.4894 mL
50 mM	0.1098 mL	0.5489 mL	1.0979 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

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- Balfour JA, et al. Topical eflornithine. *Am J Clin Dermatol.* 2001;2(3):197-201; discussion 202.
- Firpo M R. Elucidating the Underlying Mechanisms Polyamines Play on Coxsackievirus B3 Infection. Loyola University of Chicago Graduate School. 2024
- Kumar A, et al. A method to improve the efficacy of topical eflornithine hydrochloride cream. *Drug Deliv.* 2016 Jun; 23(5):1495-501.
- Lipke DW, et al. Eflornithine alters changes in vascular responsiveness associated with coarctation hypertension. *Clin Exp Hypertens.* 1997 Apr;19(3):297-312.

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