Eflornithine

Cat. No.: HY-B0744

CAS No.: 70052-12-9

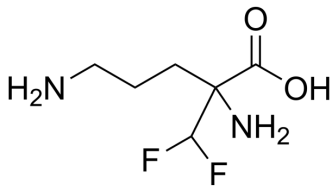
Molecular Formula: $C_6H_{12}F_2N_2O_2$

Molecular Weight: 182.17

Target: Parasite

Pathway: Anti-infection

Storage: 4°C, sealed storage, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 83.33 mg/mL (457.43 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	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

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Eflornithine is a specific, irreversible inhibitor of the enzyme ornithine decarboxylase. Eflornithine is a medication for the treatment of African trypanosomiasis and excessive facial hair growth in women.

IC_{50} & Target

Trypanosoma

In Vivo

Eflornithine is the only new molecule registered for the treatment of human African trypanosomiasis over the last 50 years. It is the drug used mainly as a back-up for melarsoprol refractory Trypanosoma brucei gambiense cases[1]. In subjects with excessive, unwanted facial hair, eflornithine 15% cream is superior to placebo in reducing hair growth. After 24 weeks' treatment, 58% of eflornithine and 34% of placebo subjects have at least some improvement in facial hirsutism[2]. The hair growth inhibitory activity of eflornithine is significantly enhanced when the eflornithine cream is applied onto a mouse skin area pretreated with microneedles[3]. Treatment of coarctation hypertensive rats with eflornithine results in a normalization of the contractile intensity to KCl and norepinephrine and relaxations to acetylcholine by 14 days of hypertension[4].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Animal Administration [3]	Mice: The skin area where the hair is removed is then treated with the eflornithine hydrochloride 13.9% cream (-50 mg per mouse per treatment) using a spatula 2 times a day in an interval of at least 8 h for a maximum period of 36 days[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Nat Commun. 2024 Mar 19;15(1):2461.
- Sci Adv. 2023 May 19;9(20):eade0718.
- JACC Basic Transl Sci. 2022 Aug 3;7(8):820-840.
- Commun Biol. 2019 May 8;2:171.
- Cancer Nanotechnol. 2023 May 9.

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REFERENCES

[1]. Burri C, et al. Eflornithine for the treatment of human African trypanosomiasis. Parasitol Res. 2003 Jun;90 Supp 1:S49-52.

[2]. Balfour JA, et al. Topical eflornithine. Am J Clin Dermatol. 2001;2(3):197-201; discussion 202.

[3]. Kumar A, et al. A method to improve the efficacy of topical eflornithine hydrochloride cream. Drug Deliv. 2016 Jun;23(5):1495-501.

[4]. 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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