LKT Laboratories, Inc.

Difluoromethylornithine Hydrochloride Monohydrate

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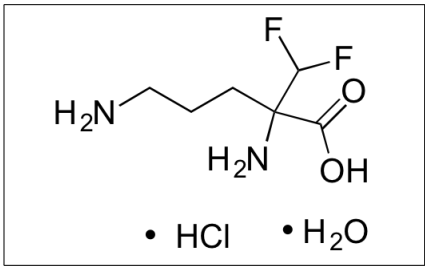
Product Information

Product ID D3221
CAS No. 96020-91-6
Chemical Name 2-(Difluoromethyl)-DL-ornithine Hydrochloride Monohydrate

Synonym Eflornithine HCl H2O, DFMO HCl H2O



Formula $C_6H_{12}F_2N_2O_2 \cdot HCl \cdot H_2O$
Formula Wt. 236.65
Melting Point
Purity ≥98%
Solubility Soluble in water. Insoluble in acetone or chloroform.

Bulk quanitites available upon request

Product ID	Size
D3221	10 mg
D3221	25 mg

Store Temp -20˚C
Ship Temp Ambient

Description Difluoromethylornithine (DFMO) exhibits anti-parasitic, anti-angiogenic, anti-metastatic, anticancer chemotherapeutic, and chemopreventive activities. DFMO inhibits ornithine decarboxylase, suppressing polyamine and thymidine synthesis. DFMO inhibits growth of *Leishmania* and *Trypanosoma* and is clinically used to treat African sleeping sickness. This compound suppresses breast cancer cell invasion by increasing PKA signaling and inhibits neovascularization in animal models. In other animal models, DFMO decreases the epithelial-to-mesenchymal transition (EMT), suppressing squamous cell carcinoma tumor growth; it also limits the development of esophageal tumors in vivo.

References

Singh AK, Roberts S, Ullman B, et al. A quantitative proteomic screen to identify potential drug resistance mechanism in α-difluoromethylornithine (DFMO) resistant Leishmania donovani. J Proteomics. 2014 May 6;102:44-59. PMID: 24631822.

Tysoe C, Withers SG. Fluorinated mechanism-based inhibitors: common themes and recent developments. Curr Top Med Chem. 2014;14(7):865-74. PMID: 24484426.

Arumugam A, Weng Z, Talwelkar SS, et al. Inhibiting cycloxygenase and ornithine decarboxylase by diclofenac and alpha-difluoromethylornithine blocks cutaneous SCCs by targeting Akt-ERK axis. PLoS One. 2013 Nov 8;8(11):e80076. PMID: 24260338.

Xu H, Washington S, Verderame MF, et al. Activation of protein kinase A (PKA) signaling mitigates the antiproliferative and antiinvasive effects of alpha-difluoromethylornithine in breast cancer cells. Breast Cancer Res Treat. 2008 Jan;107(1):63-70. PMID: 17333334.

Lima e Silva R, Saishin Y, Saishin Y, et al. Suppression and regression of choroidal neovascularization by polyamine analogues. Invest Ophthalmol Vis Sci. 2005 Sep;46(9):3323-30. PMID: 16123436.

Fong LY, Nguyen VT, Pegg AE, et al. Alpha-difluoromethylornithine induction of apoptosis: a mechanism which reverses pre-established cell proliferation and cancer initiation in esophageal carcinogenesis in zinc-deficient rats. Cancer Epidemiol Biomarkers Prev. 2001 Mar;10(3):191-9. PMID: 11303587.