

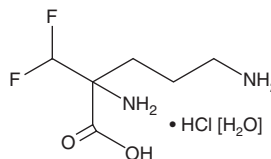
PRODUCT INFORMATION



DL- α -Difluoromethylornithine (hydrochloride hydrate)

Item No. 16889

CAS Registry No.: 96020-91-6
Formal Name: 2-(difluoromethyl)-ornithine, monohydrochloride, monohydrate
Synonyms: DFMO, Eflornithine
MF: C₆H₁₂F₂N₂O₂ • HCl [H₂O]
FW: 236.6
Purity: ≥98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

DL- α -Difluoromethylornithine (DFMO) (hydrochloride hydrate) is supplied as a crystalline solid. Aqueous solutions of DFMO (hydrochloride hydrate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of DFMO (hydrochloride hydrate) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

DFMO is an irreversible inhibitor of ornithine decarboxylase that suppresses polyamine biosynthesis.¹ DFMO displays antiangiogenic and cytostatic effects in tumor cells but must be used in combination with other chemotherapeutic agents to negate compensatory increases in polyamine content through alternate synthesis pathways.¹⁻⁴ Through inhibition of polyamine synthesis, DFMO also demonstrates antiparasitic activity in a model of *C. parvum* infection.⁵

References

1. Wallace, H.M., Fraser, A.V., and Hughes, A. A perspective of polyamine metabolism. *Biochem. J.* **376**(Pt 1), 1-14 (2003).
2. Takigawa, M., Enomoto, M., Nishida, Y., et al. Tumor angiogenesis and polyamines: α -Difluoromethylornithine, an irreversible inhibitor of ornithine decarboxylase, inhibits B16 melanoma-induced angiogenesis *in ovo* and the proliferation of vascular endothelial cells *in vitro*. *Cancer Res.* **50**(13), 4131-4138 (2014).
3. Marton, L.J., Levin, V.A., Hervatin, S.J., et al. Potentiation of the antitumor therapeutic effects of 1,3-bis(2-chloroethyl)-1-nitrosourea by α -difluoromethylornithine, an ornithine decarboxylase inhibitor. *Cancer Res.* **41**(11 Pt 1), 4426-4431 (1981).
4. Hayes, C.S., Burns, M.R., and Gilmour, S.K. Polyamine blockade promotes antitumor immunity. *Oncoimmunology* **3**(1), e27360-1-e27360-3 (2014).
5. Yarlett, N., Waters, W.R., Harp, J.A., et al. Activities of DL- α -difluoromethylarginine and polyamine analogues against *Cryptosporidium parvum* infection in a T-cell receptor α -deficient mouse model. *Antimicrob. Agents Chemother.* **51**(4), 1234-1239 (2007).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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