

# PRODUCT INFORMATION

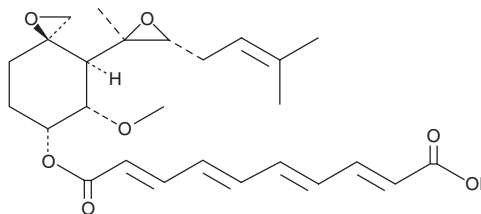


## Fumagillin

Item No. 11332

**CAS Registry No.:** 23110-15-8  
**Formal Name:** 2E,4E,6E,8E-decatetraenedioic acid, 1-[(3R,4S,5S,6R)-5-methoxy-4-[(2R,3R)-2-methyl-3-(3-methyl-2-buten-1-yl)-2-oxiranyl]-1-oxaspiro[2.5]oct-6-yl] ester  
**Synonyms:** Amebacilin, NSC 9168

**MF:** C<sub>26</sub>H<sub>34</sub>O<sub>7</sub>  
**FW:** 458.6  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 334, 348 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years  
**Item Origin:** Fungi/*Aspergillus fumigatus*



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

### Laboratory Procedures

Fumagillin is supplied as a crystalline solid. A stock solution may be made by dissolving the fumagillin in the solvent of choice, which should be purged with an inert gas. Fumagillin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of fumagillin in ethanol is approximately 0.25 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Fumagillin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, fumagillin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Fumagillin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Fumagillin is a fungal metabolite that has been found in *A. fumigatus* and has diverse biological activities.<sup>1-5</sup> It inhibits methionyl aminopeptidase 2 (METAP2; IC<sub>50</sub> = 10 nM).<sup>1</sup> Fumagillin (10 ng/ml) inhibits tube formation in a rat blood vessel organ culture assay.<sup>3</sup> It inhibits *E. cuniculi* replication in isolated rabbit kidney cells and canine embryo cells when used at a concentration of 5 μg/ml.<sup>2</sup> *In vivo*, fumagillin (30 mg/kg per day) decreases tumor growth and the number of metastases in a mouse model of diethylnitrosamine-induced hepatocellular carcinoma.<sup>4</sup> It also reduces subcutaneous and gonadal fat mass in a mouse model of high-fat diet-induced obesity.<sup>5</sup> Formulations containing fumagillin have been used to treat conjunctival and intestinal microsporidial infections in immunocompromised patients.

### References

1. Griffith, E.C., Su, Z., Niwayama, S., *et al.* Molecular recognition of angiogenesis inhibitors fumagillin and ovalicin by methionine aminopeptidase 2. *Proc. Nat. Acad. Sci. USA* **95(26)**, 15183-15188 (1998).
2. Shadduck, J.A. Effect of fumagillin on *in vitro* multiplication of *Encephalitozoon cuniculi*. *J. Protozool.* **27(2)**, 202-208 (1980).
3. Kusaka, M., Sudo, K., Fujita, T., *et al.* Potent anti-angiogenic action of AGM-1470: Comparison to the fumagillin parent. *Biochem. Biophys. Res. Commun.* **174(3)**, 1070-1076 (1991).
4. Sheen, I.S., Jeng, K.S., Jeng, W.J., *et al.* Fumagillin treatment of hepatocellular carcinoma in rats: An *in vivo* study of antiangiogenesis. *World J. Gastroenterol.* **11(6)**, 771-777 (2005).
5. Lijnen, H.R., Frederix, L., and Van Hoef, B. Fumagillin reduces adipose tissue formation in murine models of nutritionally induced obesity. *Obesity* **18(2)**, 2241-2246 (2010).

#### 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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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897

[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM