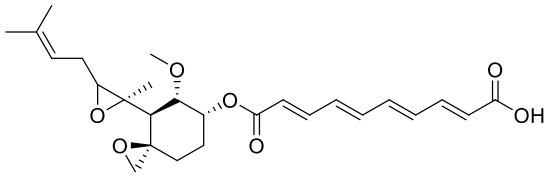
Product data sheet

MedKoo Cat#: 317134 Name: Fumagillin CAS#: 23110-15-8 Chemical Formula: $C_{26}H_{34}O_7$ Exact Mass: 458.23045 Molecular Weight: 458.55	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

Fumagillin is a complex biomolecule and used as an antimicrobial agent. It was isolated in 1949 from the microbial organism Aspergillus fumigatus. Fumagillin has been used in the treatment of microsporidiosis. It is also an amebicide. Fumagillin can block blood vessel formation by binding to an enzyme methionine aminopeptidase and for this reason, the compound, together with semisynthetic derivatives, are investigated as an angiogenesis inhibitor in the treatment of cancer.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	57.33	125.02
DMSO:PBS (pH 7.2) (1:1)	0.5	1.09
DMF	30.0	65.42
Ethanol	16.13	35.18

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.18 mL	10.90 mL	21.81 mL
5 mM	0.44 mL	2.18 mL	4.36 mL
10 mM	0.22 mL	1.09 mL	2.18 mL
50 mM	0.04 mL	0.22 mL	0.44 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Kanno T, Uehara T, Osawa M, Fukumoto H, Mine S, Ueda K, Hasegawa H, Katano H. Fumagillin, a potent angiogenesis inhibitor, induces Kaposi sarcoma-associated herpesvirus replication in primary effusion lymphoma cells. Biochem Biophys Res Commun. 2015 Aug 7;463(4):1267-72. doi: 10.1016/j.bbrc.2015.06.100. Epub 2015 Jun 18. PMID: 26093300.
2. Fallon JP, Reeves EP, Kavanagh K. The Aspergillus fumigatus toxin fumagillin suppresses the immune response of Galleria mellonella larvae by inhibiting the action of haemocytes. Microbiology (Reading). 2011 May;157(Pt 5):1481-1488. doi: 10.1099/mic.0.043786-0. Epub 2011 Feb 24. PMID: 21349977.

In vivo study

1. Kass DJ, Rattigan E, Kahloon R, Loh K, Yu L, Savir A, Markowski M, Saqi A, Rajkumar R, Ahmad F, Champion HC. Early treatment with fumagillin, an inhibitor of methionine aminopeptidase-2, prevents Pulmonary Hypertension in monocrotaline-injured rats. PLoS One. 2012;7(4):e35388. doi: 10.1371/journal.pone.0035388. Epub 2012 Apr 11. PMID: 22509410; PMCID: PMC3324555.

2. Lijnen HR, Frederix L, Van Hoef B. Fumagillin reduces adipose tissue formation in murine models of nutritionally induced obesity. Obesity (Silver Spring). 2010 Dec;18(12):2241-6. doi: 10.1038/oby.2009.503. Epub 2010 Jan 21. PMID: 20094042.

7. Bioactivity

Biological target:

Fumagillin can inhibits HIV-1 infection through the inhibition of HIV-1 viral protein R (Vpr) activity.

In vitro activity

In addition to TPA, 10 μM fumagillin resulted in growth inhibition of primary effusion lymphoma cell lines. These observations suggest that an angiogenesis inhibitor is an agent with potent effects on cell growth and KSHV reactivation in primary effusion lymphoma cells.

Reference: Biochem Biophys Res Commun. 2015 Aug 7;463(4):1267-72. https://pubmed.ncbi.nlm.nih.gov/26093300/

In vivo activity

In contrast, MCT-injured rats, treated with fumagillin beginning on day 3 continued to gain weight at a rate similar to uninjured animals. Animals treated with fumagillin beginning 14 days after MCT lost significantly less weight at week 5 than MCT-injured animals treated with the vehicle. These data suggest that treatment with fumagillin initiated at 3 d protected animals from weight loss induced by MCT injury.

Reference: PLoS One. 2012; 7(4): e35388. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3324555/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.