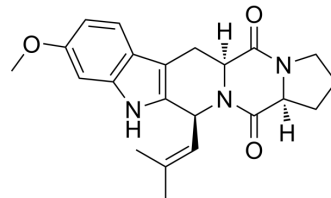


Fumitremorgin C

Cat. No.:	HY-N2143		
CAS No.:	118974-02-0		
Molecular Formula:	C ₂₂ H ₂₅ N ₃ O ₃		
Molecular Weight:	379.45		
Target:	BCRP; Bacterial; Antibiotic		
Pathway:	Membrane Transporter/Ion Channel; Anti-infection		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (131.77 mM; Need ultrasonic)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	2.6354 mL	13.1770 mL	26.3539 mL
	5 mM	0.5271 mL	2.6354 mL	5.2708 mL
	10 mM	0.2635 mL	1.3177 mL	2.6354 mL

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 3 mg/mL (7.91 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 3 mg/mL (7.91 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Fumitremorgin C is a potent and selective ABCG2/BCRP inhibitor.

In Vitro

Multidrug resistance (MDR) is a major problem in cancer chemotherapy. Fumitremorgin C is extremely effective in reversing resistance to mitoxantrone, doxorubicin, and topotecan in multidrug-selected cell lines. In MCF-7/mtxR (a mitoxantroneselected cell line), fumitremorgin C reverses mitoxantrone resistance (114-fold) and doxorubicin resistance (3-fold). Fumitremorgin C (5/AM) significantly potentiates the toxicity of mitoxantrone (93-fold), doxorubicin (26-fold), and topotecan (24-fold) in S1M1-3.2 cells. Reversal of resistance is associated with an increase in drug accumulation. Fumitremorgin C does not reverse drug resistance in cells with elevated expression of Pgp or MRP^[1]. Fumitremorgin C almost completely reverses resistance mediated by BCRP in vitro and is a pharmacological probe for the expression and molecular action of this transporter. Fumitremorgin C also enhances the toxicity of mitoxantrone and topotecan in vector-

transfected MCF-7 cells (2.5–5.6 fold). It reduces the IC₅₀ of topotecan in BCRP-overexpressing cells below that observed in the untreated vector-transfected cells. [2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [1]

Cells are treated with chemotherapeutic agent and the reversal agents Fumitremorgin C is added to cells (0.1 to 80 /UM). In parallel wells, cells are grown in the presence of the reversal agent alone. Following a 3-day growth period, cells are fixed in 10% trichloroacetic acid for 1 h and washed extensively with water, and cell-associated protein is stained using 0.1% SRB. Excess reagent is removed by washing plates in 5% acetic acid, the dye is solubilized in 10 mM Tris base, and absorbance is determined in a UV Max spectrophotometer at 540 nm. Cell survival is determined relative to control wells [1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Crit Rev Anal Chem. 2021 Mar 10;1-15.
- Preprints. 2023 Nov 7.
- Research Square Print. 2022.

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REFERENCES

[1]. Rabindran SK, et al. Reversal of a novel multidrug resistance mechanism in human colon carcinoma cells by fumitremorgin C. Cancer Res. 1998 Dec 15;58(24):5850-8.

[2]. Rabindran SK, et al. Fumitremorgin C reverses multidrug resistance in cells transfected with the breast cancer resistance protein. Cancer Res. 2000 Jan 1;60(1):47-50.

Caution: Product has not been fully validated for medical applications. For research use only.

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