

Product Information

Fumitremorgin C

from *Neosartorya fischeri* var. *fischeri*

Catalog Number **F9054**

Store at 2-8 °C

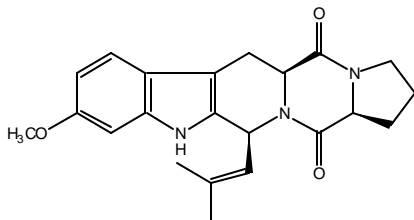
CAS RN: 118974-02-0

Synonym: FTC

Product Description

Molecular Formula: C₂₂H₂₅N₃O₃

Molecular Weight: 379.45



Fumitremorgin C (FTC) is a fungal toxin of the diketopiperazines family of compounds.¹ In mammalian cells, it is tremorgenic and causes cell cycle arrest.¹ FTC was shown to reverse resistance to doxorubicin, mitoxantrone, and topotecan in non-Pgp (P-glycoprotein), non-MRP (multidrug resistance protein) multidrug-resistance (MDR) cells.² This reversal of resistance is associated with an increase in drug accumulation.² FTC is a specific and potent inhibitor at micromolar concentrations of the breast cancer resistant protein (BCRP/ABCG2), an ABC transporter associated with chemotherapy resistance.³ FTC used in combination with mitoxantrone, has been shown to be useful for the detection of ABCG2 functional activity in several cell lines in flow cytometric analysis.⁴

Purity: > 98% (HPLC and TLC)

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Soluble in DMSO and chloroform. Also soluble in methanol and acetonitrile at 5 mg/mL.

Storage/Stability

Store desiccated at 2-8 °C. Under these conditions, the product is stable for 2 years. A solution in DMSO is stable for 2 months at 2-8 °C.

References

1. Cui, C.B., et al., Novel mammalian cell cycle inhibitors, tryprostatins A, B and other diketopiperazines produced by *Aspergillus fumigatus*. I. Taxonomy, fermentation, isolation and biological properties. *J. Antibiot.*, **49**, 527-533 (1996).
2. Rabindran, S.K., et al., Reversal of a novel multidrug resistance mechanism in human colon carcinoma cells by fumitremorgin C. *Cancer Res.*, **58**, 5850-5858 (1998).
3. Rabindran, S.K., et al., Fumitremorgin C reverses multidrug resistance in cells transfected with the breast cancer resistance protein. *Cancer Res.*, **60**, 47-50 (2000).
4. Minderman, H., et al., Flow cytometric analysis of breast cancer resistance protein expression and function. *Cytometry*, **48**, 59-65 (2002).

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