

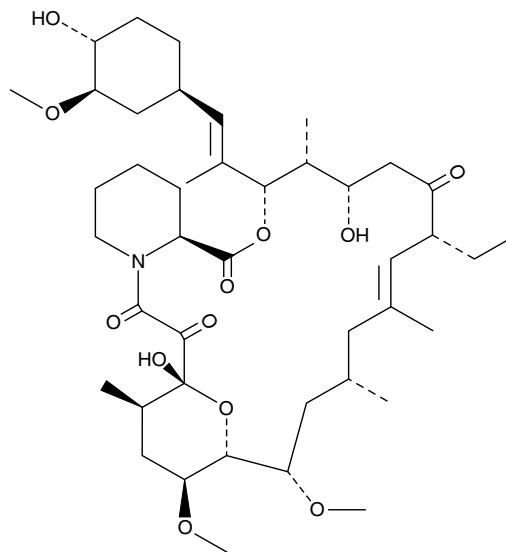
Product Information



Ascomycin

Item No. 11309

CAS Registry No.: 104987-12-4
Formal Name: (3S,4R,5S,8R,9E,12S,14S,15R,16S,18R,19R,26aS)-8-ethyl-5,6,8,11,12,13,14,15,16,17,18,19,24,25,26,26a-hexadecahydro-5,19-dihydroxy-3-[(1E)-2-[(1R,3R,4R)-4-hydroxy-3-methoxycyclohexyl]-1-methylethenyl]-14,16-dimethoxy-4,10,12,18-tetramethyl-15,19-epoxy-3H-pyrido[2,1-c][1,4]oxaazacyclotricosine-1,7,20,21(4H,23H)-tetrone
Synonyms: Changchuanmycin, FK-520, FR900520, Immunosylin, L 683590
MF: C₄₃H₆₉NO₁₂
FW: 792.0
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that ascomycin be stored as supplied at -20°C. It should be stable for at least two years.

Ascomycin is supplied as a crystalline solid. A stock solution may be made by dissolving the ascomycin in the solvent of choice. Ascomycin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of ascomycin in these solvents is approximately 20 mg/ml.

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

Ascomycin, produced by the fermentation of *S. hygroscopicus* subsp. *ascomyceticus*, is an ethyl analog of tacrolimus (FK-506) with potent immunosuppressant properties that prevents T-cell proliferation through initial binding to FK-506-binding protein 12 (FKBP12), an immunophilin that acts as the principal mediator of FK506- and rapamycin-induced immunosuppression.^{1,2} Ascomycin inhibits the enzymatic peptidyl-prolyl *cis-trans* isomerase and chaperone activities of PfkfBP35, an FKBP from *P. falciparum*, a causative agent of malaria in humans with an IC₅₀ value of 0.52 μM.³

References

1. Mrowietz, U. Macrolide immunosuppressants. *Eur. J. Dermatol.* **9**(5), 346-351 (1999).
2. Andexer, J.N., Kendrew, S.G., Nur-e-Alam, M., *et al.* Biosynthesis of the immunosuppressants FK506, FK520, and rapamycin involves a previously undescribed family of enzymes acting on chorismate. *Proc. Natl. Acad. Sci. USA* **108**(12), 4776-4781 (2011).
3. Monaghan, P., Fardis, M., Revill, W.P., *et al.* Antimalarial effects of macrolactones related to FK520 (ascomycin) are independent of the immunosuppressive properties of the compounds. *J. Infect. Dis.* **191**, 1342-1349 (2005).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/11309

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

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