

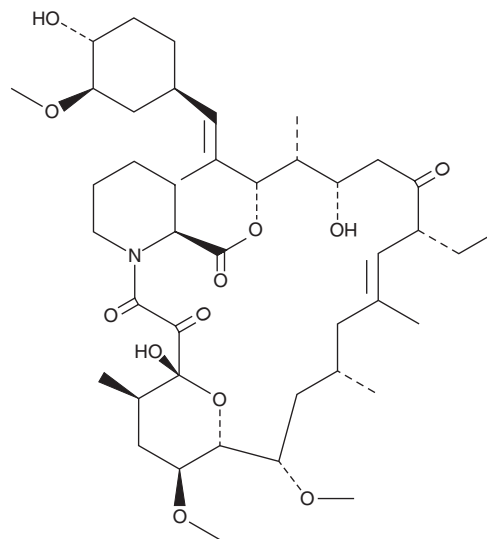
PRODUCT INFORMATION



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, Immunomycin, L 683590
MF: C₄₃H₆₉NO₁₂
FW: 792.0
Purity: ≥98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Ascomycin is supplied as a crystalline solid. A stock solution may be made by dissolving the ascomycin in the solvent of choice, which should be purged with an inert gas. Ascomycin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of ascomycin in ethanol is approximately 20 mg/ml and approximately 30 mg/ml in DMSO and DMF.

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.

Description

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 PpFKBP35, 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**(8), 1342-1349 (2005).

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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