

Store at
-20C
#31403**Ascomycin (FK520)**

5 mg



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Background

Ascomycin (FK520) is a 23-membered macrolide lactone produced from the fermentation of *Streptomyces hygroscopicus* (1). A natural analogue of FK506, Ascomycin (FK520) has the ability to bind to FK506-binding protein 12 (FKBP12), inhibiting calcineurin phosphatase activity, and disrupting the activation of nuclear factor of activated T cells (NFAT) and other various substrates (2). Primarily described as an antifungal antibiotic, Ascomycin (FK520) has shown to be a potent immunosuppressant (IC₅₀ = 0.55 nM) used to prevent the rejection of organ transplants and skin allografts (1,3). Ascomycin (FK520) displays powerful antimalarial properties independent of its immunosuppressive mechanisms of action (2).

Molecular FormulaC₄₃H₆₉NO₁₂**Molecular Weight**

792 g/mol

Purity

>99%

CAS

104987-12-4

Solubility

Soluble in DMSO at 50 mg/ml or ethanol at 50 mg/ml with slight warming.

Storage

Store lyophilized at -20°C, desiccated. In lyophilized form, the chemical is stable for 24 months. Once in solution, store at -20°C and use within 3 months to prevent loss of potency. *Aliquot to avoid multiple freeze/thaw cycles.*

Directions for Use

Ascomycin (FK520) is supplied as a lyophilized powder. For a 5 mM stock, reconstitute 5 mg of powder in 1.26 ml of DMSO. Working concentrations and length of treatment can vary depending on the desired effect.

Background References

1. Hatanaka, H. et al. (1988) *J Antibiot (Tokyo)* 41, 1592-601.
2. Monaghan, P. et al. (2005) *J Infect Dis* 191, 1342-9.
3. Arndt, C. et al. (1999) *Microbiology* 145 (Pt 8), 1989-2000.

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