

Store at  
-20°C

# Ascomycin (FK520)



#31403

5 mg

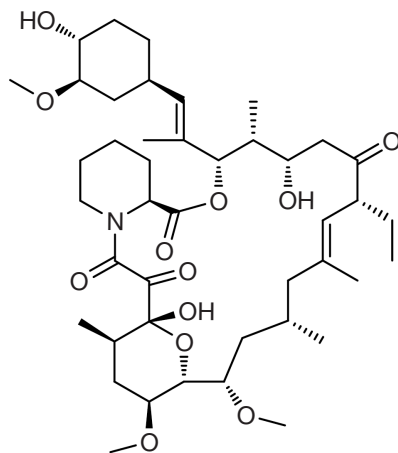
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## For Research Use Only. Not For Use In Diagnostic Procedures.

**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 ( $IC_{50} = 0.55$  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 Formula:** C<sub>43</sub>H<sub>69</sub>NO<sub>12</sub>



**Molecular Weight:** 792.0 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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**Applications:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.