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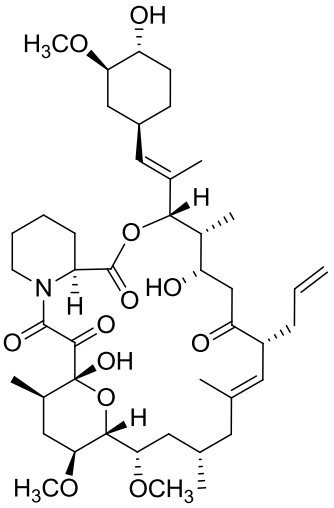
PRODUCT DATA SHEET

Tacrolimus

Code No.: **BIA-T1184**

Pack sizes: **25 mg, 100 mg**



Synonyms : Fujimycin, FK506, FR900506, Tskubaenolide

Specifications

CAS #	:	**104987-11-3**
Molecular Formula	:	**$C_{44}H_{69}NO_{12}$**
Molecular Weight	:	**804.0**
Source	:	***Streptomyces hygroscopicus***
Appearance	:	**White solid**
Purity	:	**>99% by HPLC**
Long Term Storage	:	**-20°C**
Solubility	:	**Soluble in ethanol, methanol, DMF or DMSO. Limited water solubility.**

Application Notes

Tacrolimus (fujimycin) was discovered as a potent inhibitor of IL2 production in a targeted search for novel immunosuppressants. Tacrolimus acts by blocking T cell proliferation in vitro by inhibiting the generation of several lymphokines, notably the original target IL-2. Tacrolimus inhibits the activity of FK-506 binding protein, Ca2+-dependent phosphatase and calcineurin, and activates NF-κB through phosphorylation and degradation of IκBα.

References

1. FK-506, a novel immunosuppressant isolated from a Streptomyces. I. Fermentation, isolation, and physico-chemical and biological characteristics. Kino T. et al. , J. Antibiot. 1987, 40, 1249.
2. Cyclosporin A and FK506: molecular mechanisms of immunosuppression and probes for transplantation biology. Bierer B.E. et al. , Curr. Opin. Immunol. 1993, 5, 763.
3. Immunosuppressant FK506 activates NF-kappaB through the proteasome-mediated degradation of IkappaBalpha. Requirement for Ikappabalpha n-terminal phosphorylation but not ubiquitination sites. Zhang Y. et al. , J. Biol. Chem. 1999, 274, 34657.

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