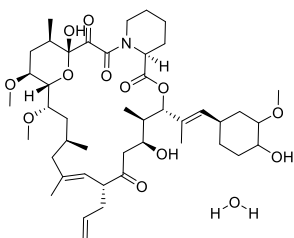




Certificate of Analysis

MedKoo Cat#:	Product Name:	Lot#:
592996	Tacrolimus hydrate	A21T08K05

Chemical name	
15,19-Epoxy-3H-pyrido(2,1-c)(1,4)oxaazacyclotricosine-1,7,20,21(4H,23H)-tetrone, 5,6,8,11,12,13,14,15,16,17,18,19,24,25,26,26a-hexadecahydro-5,19-dihydroxy-3-(2-(4-hydroxy-3-methoxycyclohexyl)-1-methylethenyl)-14,16-dimethoxy-4,10,12,18-tetramethyl-8-(2-propenyl)-, monohydrate, (3S-(3R*,(E(1S*,3S*,4S*)),4S*,5R*,8S*,9E,12R*,14R*,15S*,16R*,18S*,19S*,26aR*))-	
Synonyms	
FR 900506; FR900506; LCP-Tacro; Prograf; FK 506; FK-506; FK506; Protopic; Tacrolimus; Tacrolimus hydrate; Tsukubaenolide hydrate; Tacrolimus monohydrate	
Chemical structure	CAS# and Theoretical analysis
	MedKoo Cat#: 592996 Name: Tacrolimus hydrate CAS#: 109581-93-3 (hydrate) Lot#: A21T08K05 Chemical Formula: C ₄₄ H ₇₁ NO ₁₃ Exact Mass: 821.4925 Molecular Weight: 822.05

Analysis item	Specifications / Results
Appearance	White to off-white solid powder
Structure	¹ H-NMR analysis matches the structure. MS analysis gives the correct molecule weight. Both NMR and MS data are consistent with those reported in the literature.
Purity (HPLC)	>99.0%
Solubility	Soluble in DMSO
Conclusion	This product conforms with MedKoo's quality standards
Shipping condition	Shipped under ambient temperature as non-hazardous chemical. This product is stable for a few weeks during ordinary shipping and time spent in customs.
Storage condition	Short term storage (weeks): 0 – 4 °C under dry condition Long term storage (months): -20 °C under dry condition
Shelf life	At least 5 years if properly stored.

CAUTION: NOT FULLY TESTED. FOR RESEARCH ONLY, NOT FOR HUMAN USE