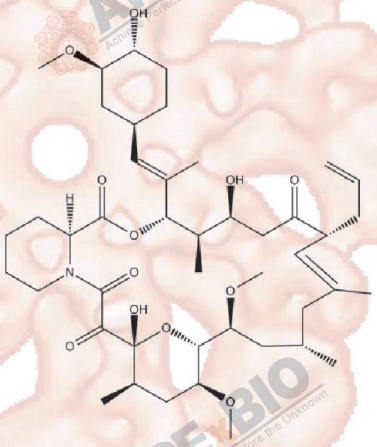
Product Data Sheet

Tacrolimus (FK506)

Cat. No.: B2143
CAS No.: 104987-11-3
Formula: C44H69NO12
M.Wt: 804.02
Synonyms:
Target: Microbiology & Virology
Pathway: Antibiotic
Storage: Store at -20°C



Solvent & Solubility

In Vitro

≥26.6 mg/mL in DMSO; insoluble in H2O; ≥84.5 mg/mL in EtOH

Preparing Stock Solutions

Mass / Solvent / Concentration	1mg	5mg	10mg
1 mM	1.2438 mL	6.2188 mL	12.4375 mL
5 mM	0.2488 mL	1.2438 mL	2.4875 mL
10 mM	0.1244 mL	0.6219 mL	1.2438 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary	Macrolide calcineurin inhibitor,immunosuppressant
IC_{50} & Target	

In Vitro

Cell Viability Assay

Cell Line:	Liver slices, human lung fibroblasts
Preparation method:	The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

	Reacting conditions:	2 μM and 4 μM for 3 days
	Applications:	FK506 reduced type I collagen synthesis in liver slices cultured in vitro [1]. Moreover, FK506 (2 μM) decreased the type I collagen protein synthesis without affecting expression of collagen mRNAs [2].
In Vivo	**Animal experiment**	
	Animal models:	Rats model
	Dosage form:	4 mg/kg; i.p. injections, daily dose for 4 weeks; or 1, 2 and 3 mg/kg, p.o. for 10 consecutive days
	Applications:	FK506 (4 mg/kg) prevented early stages of ethanol induced hepatic fibrosis by targeting LARP6 dependent mechanism of collagen synthesis in rats [1]. Moreover, FK506 (2 and 3 mg/kg) treatment resulted in attenuation of arterial ischemic reperfusion (I/R) induced axonal degeneration and histopathological alterations in rats [2].
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

1. Peiffer BJ, Qi L, et al. "Activation of BMP Signaling by FKBP12 Ligands Synergizes with Inhibition of CXCR4 to Accelerate Wound Healing." Cell Chem Biol. 2019 May 16;26(5):652-661.e4.PMID:30827938

2. Wang Z, Wang Y, et al. "Transient receptor potential channel 1/4 reduces subarachnoid hemorrhage-induced early brain injury in rats via calcineurin-mediated NMDAR and NFAT dephosphorylation." Sci Rep. 2016 Sep 19;6:33577.PMID:27641617

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References

1Manojlovic, Z., Blackmon, J. and Stefanovic, B. (2013) Tacrolimus (FK506) prevents early stages of ethanol induced hepatic fibrosis by targeting LARP6 dependent mechanism of collagen synthesis. PLoS One. 8, e65897

2Muthuraman, A. and Sood, S. (2010) Pharmacological evaluation of tacrolimus (FK-506) on ischemia reperfusion induced vasculatic neuropathic pain in rats. J Brachial Plex Peripher Nerve Inj. 5, 13

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt

of the product, follow the storage recommendations on the product data sheet.

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