

★ Storage

Store at or below -20°C.

Contents

- Product Manual
- Rapamycin, >99%

ALL PRODUCTS SOLD BY GenDEPOT ARE INTENDED FOR RESEARCH USE ONLY UNLESS OTHERWISE INDICATED. THIS PRODUCT IS NOT INTENDED FOR DIAGNOSTIC OR DRUG PURPOSE

★ Shipping Condition

Ship with ice pack.

★ Introduction

Rapamycin was used as a kind of original antifungal antibiotic, which is produced by *Streptomyces hygroscopicus*. Now it has been used in the prevention of transplant rejection because of its immunosuppressive effect. It also exhibits activity against several transplantable tumors and slightly activity to inactive against leukemias. The immunosuppressive effect of Rapamycin is exerted by inhibiting the activation and proliferation of T cells. Rapamycin binds to FK-binding protein 12 (FKBP12) and forms the rapamycin-FKBP12 complex, which regulates an enzyme that plays an important role in the progression of the cell cycle.

★ Chemical Properties

Appearance	Solid
Cas No	53123-88-9
Molecular Weight	914.18
Formula	C ₅₁ H ₇₉ NO ₁₃
Synonyms	Sirolimus,(-)-Rapamycin, AY-22989, WY-090217
Solubility	50 mg/mL in DMSO 125 mg/ml in DMSO (136.74 mM with ultrasonic) 50 mg/ ml in Ethanol

★ Biological Activity

In Vitro

Description	Inhibitor of mTOR with IC ₅₀ of ~0.1 nM.
Target	mTOR
IC₅₀	0.1 nM

In Vivo

Description	Rapamycin (2.0 mg/kg; intraperitoneal injection; every other day; 28 days) alone has a moderate inhibitory effect. However, the combination of Metformin and Rapamycin exerts a significantly increased inhibition of tumor growth compared with the control group, the Rapamycin monotherapy group and the Metformin monotherapy group.
Animal Model	24 male nu/nu mice aged 4-5 week old (15-20 g)
Dosage	2.0 mg/Kg
Administration	Intraperitoneal injection; every other day; 28 days

★ Preparing Stock Solution

Solvent Concentration	Mass		
	1 mg	5 mg	10 mg
1 mM	1.0939 mL	5.4694 mL	10.9389 mL
5 mM	0.2188 mL	1.0939 mL	2.1878 mL
10 mM	0.1094 mL	0.5469 mL	1.0939 mL