

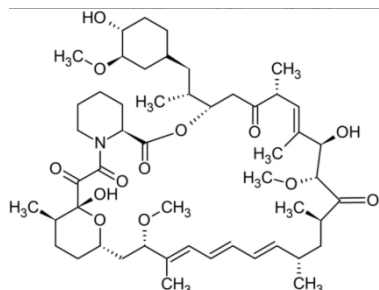
Rapamycin (CAS: 53123-88-9)

Catalog #: EBC51016

Biological Activity

Synonyms	AY 22989, Sirolimus, NSC-2260804 3 <i>S</i> ,6 <i>R</i> ,7 <i>E</i> ,9 <i>R</i> ,10 <i>R</i> ,12 <i>R</i> ,14 <i>S</i> ,15 <i>E</i> ,17 <i>E</i> ,19 <i>E</i> ,21 <i>S</i> ,23 <i>S</i> ,26 <i>R</i> ,27 <i>R</i> ,34 <i>aS</i>)- 9,10,12,13,14,21,22,23,24,25,26,27,32,33,34,34 <i>a</i> -Hexadecahydro-9,27-dihydroxy-3-
Chemical Name	[(1 <i>R</i>)-2-[(1 <i>S</i> ,3 <i>R</i> ,4 <i>R</i>)-4-hydroxy-3-methoxycyclohexyl]-1-methylethyl]-10,21-dimethoxy- 6,8,12,14,20,26-hexamethyl-23,27-epoxy-3 <i>H</i> -pyrido[2,1- c][1,4]oxaazacyclohentriacontine-1,5,11,28,29(4 <i>H</i> ,6 <i>H</i> ,31 <i>H</i>)-pentone
Application	Rapamycin is a potent and specific mTOR inhibitor with an IC ₅₀ of 0.1 nM in HEK293 cells
CAS No.	53123-88-9
Purity	≥98.0%
Molecular Weight	914.17
Molecular Formula	C ₅₁ H ₇₉ NO ₁₃
Shipping	Gel Pack
Storage	Store at -20° C
Target & IC₅₀	mTOR: IC ₅₀ = 0.1 nM

Molecular Structure



Solubility

DMSO: 100 mg/mL (109.39 mM)

Ethanol: 100 mg/mL (109.39 mM)

PS: < 1 mg/ml refers to the product insoluble

Description

Rapamycin is a member of the macrolide immunosuppressant family and a FRAP inhibitor. Rapamycin exhibits binding and inhibitory actions to the FK506 binding protein (FKBP5) proline rotamase via simultaneous binding by FKBP12 and FRAP. FRAP (RAFT1) proteins exhibit homology to PI 4- and PI 3-kinases, which have PI 4-kinase and autophosphorylating activities. The rapamycin/FKBP complex does not inhibit the FRAP PI 4-kinase activity, but does inhibit FRAP autophosphorylation. Rapamycin is unique in its ability to inhibit lymphokine induced cell proliferation at the G1 and S phase as well as an irreversible cellular arrest at the G1 phase in *Saccharomyces cerevisiae* cells. Rapamycin also exhibits selective signal blocking leading to the activation of p70/85 S6 kinase, which is potentially due to the inhibition of FRAP autophosphorylation or protein kinase activity. Rapamycin also exhibits Angiogenesis inhibition, possibly through the inhibition of the Akt pathway. Rapamycin is an inhibitor of mTOR. Rapamycin is also known as Rapamune, 23,27-Epoxy-3*H*-pyrido[2,1-*c*][1,4]oxaazacyclohentriacontine, AY 22989, and mTOR Inhibitor I

For Reserch Use Only. Not For Use In Diagnostic Procedures

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