

Product Name: Temsirolimus

Catalog No.: 5264

Batch No.: 2

CAS Number: 162635-04-3

IUPAC Name: Rapamycin 42-[3-hydroxy-2-(hydroxymethyl)-2-methylpropanoate]

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₅₆H₈₇NO₁₆·½H₂O

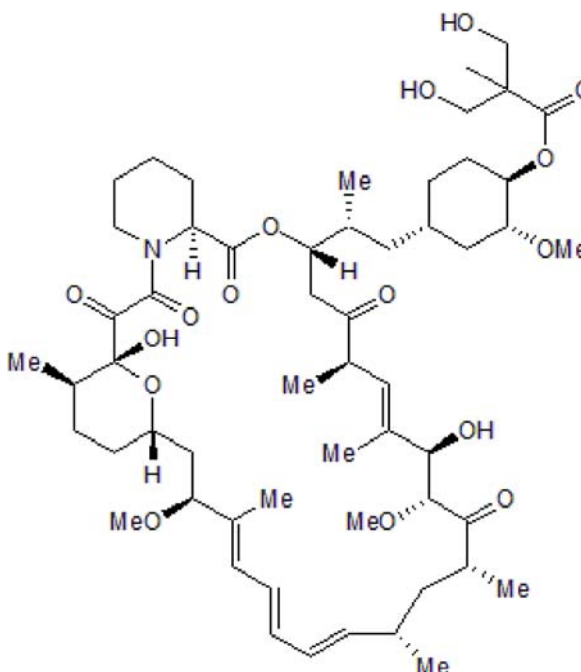
Batch Molecular Weight: 1039.3

Physical Appearance: White solid

Solubility: DMSO to 100 mM
ethanol to 100 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.3% purity

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	64.72	8.53	1.35
Found	64.61	8.68	1.35

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

mTOR inhibitor; inhibits tumor growth in breast cancer cell lines (IC₅₀ values are 1.6 and 4.3 nM for SKBr3 and BT474, respectively). Inhibits HIF-1 α -mediated VEGF production in breast cancer cell lines (BT474 and MDA-MB-231). Directly inhibits serum and VEGF mediated endothelial cell proliferation and morphogenesis in vitro and vessel formation in vivo. Causes G₁/S cell cycle arrest in multiple cancer cell lines. Antiangiogenic. Activates autophagy.

Physical and Chemical Properties:

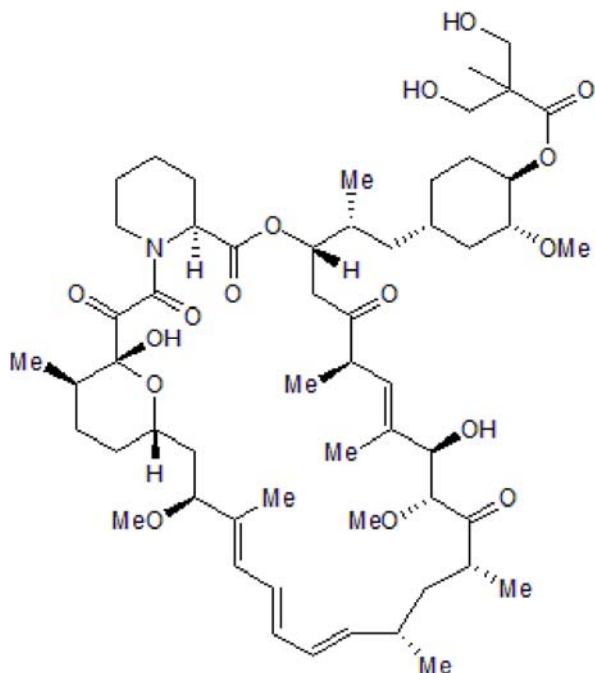
Batch Molecular Formula: C₅₆H₈₇NO₁₆.½H₂O

Batch Molecular Weight: 1039.3

Physical Appearance: White solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Store at -20°C

Solubility & Usage Info:

DMSO to 100 mM

ethanol to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

Licensing Information:

Sold for research purposes under agreement from Pfizer Inc.

References:

Galluzzi et al (2017) Pharmacological modulation of autophagy: therapeutic potential and persisting obstacles. *Nat.Rev.Drug.Discov.* PMID: 28529316.

Li et al (2013) The novel mTOR inhibitor CCI-779 (temsirolimus) induces antiproliferative effects through inhibition of mTOR in Bel-7402 liver cancer cells. *Cancer Cell Int.* **13**. PMID: 23537100.

Wang et al (2012) Inhibition of mammalian target of rapamycin signaling by CCI-779 (temsirolimus) induces growth inhibition and cell cycle arrest in Cashmere goat fetal fibroblasts (*Capra hircus*). *DNA Cell Biol.* **31** 1095. PMID: 22320865

Del Bufalo et al (2006) Antiangiogenic potential of the Mammalian target of rapamycin inhibitor temsirolimus. *Cancer Res.* **66** 5549. PMID: 16740688

Wu et al (2005) Effects of the mammalian target of rapamycin inhibitor CCI-779 on chemotherapeutic drug resistance in human prostate cancer cell lines. *Cancer Res.* **65** 2825. PMID: 16120523

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