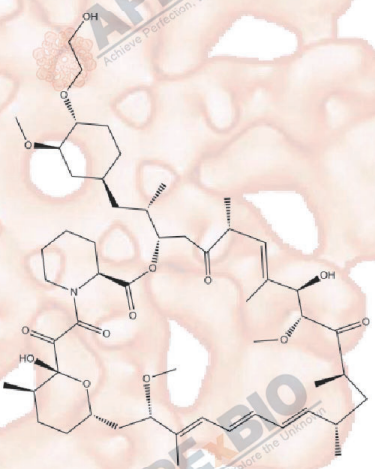
Product Data Sheet

Everolimus (RAD001)



Cat. No.:	A8169
CAS No.:	159351-69-6
Formula:	C53H83NO14
M.Wt:	958.22
Synonyms:	Everolimus, RAD001
Target:	PI3K/Akt/mTOR Signaling
Pathway:	mTOR
Storage:	Store at -20°C

Solvent & Solubility

In Vitro

⩾47.91 mg/mL in DMSO; insoluble in H2O; ⩾122 mg/mL in EtOH

Preparing Stock Solutions

Mass / Solvent / Concentration	1mg	5mg	10mg
1 mM	1.0436 mL	5.2180 mL	10.4360 mL
5 mM	0.2087 mL	1.0436 mL	2.0872 mL
10 mM	0.1044 mL	0.5218 mL	1.0436 mL

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

Biological Activity

Shortsummary	MTOR inhibitor
IC_{50} & Target	1.6-2.4 nM (mTOR (FKBP12))

In Vitro

Cell Viability Assay

Cell Line:	The pancreatic tumor cell line Panc-1 and the small cell lung cancer cell line ScLc.
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:	IC50: 50 μg/mL (Panc-1); 5 μg/mL (ScLc), 24h
	Applications:	Everolimus exerted antiproliferation activity. It dose-dependently inhibited BrdU incorporation in Panc-1 and ScLc with IC50 values of 50 μg/mL and 5 μg/mL, respectively. Both are high concentrations that would not be possible in humans. Therapeutic serum levels of everolimus range between 0.005 and 0.01 μg/mL.
In Vivo	**Animal experiment**	
	Animal models:	TgMISIIR-TAg-DR26 mice model of ovarian cancer
	Dosage form:	RAD001 was formulatedat 2% (w/v) in a microemulsion vehicle and was diluted in double-distilled water just before administration by gavage. Mice were treated with placebo (control) or 5 mg/kg of RAD001 twice weekly started from age of 5 weeks and continued to 20 weeks. Mice treated with placebo or RAD001 were scanned by MRM.
	Applications:	RAD001 suppressed tumorigenesis. Body weights of RAD001-treated mice were ~10% lower than in placebo-treated mice.
	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. Syafruddin SE, Rodrigues P, et al. "A KLF6-driven transcriptional network links lipid homeostasis and tumour growth in renal carcinoma." Nat Commun. 2019 Mar 11;10(1):1152.PMID:30858363

2. Hegab AE, Ozaki M, et al. "Calorie restriction enhances adult mouse lung stem cells function and reverses several ageing-induced changes." J Tissue Eng Regen Med. 2018 Dec 18.PMID:30562419

3. Wang H, Tian L, et al. "The Osteogenic Niche Is a Calcium Reservoir of Bone Micrometastases and Confers Unexpected Therapeutic Vulnerability." Cancer Cell. 2018 Nov 12;34(5):823-839.e7.PMID:30423299

4. Hegab AE, Ozaki M, et al. "High fat diet activates adult mouse lung stem cells and accelerates several aging-induced effects." Stem Cell Res. 2018 Oct 4;33:25-35.PMID:30308415

5. Cheriyan VT, Alsaab H, et al. "A CARP-1 functional mimetic compound is synergistic with BRAF-targeting in non-small cell lung cancers." Oncotarget. 2018 Jul 3;9(51):29680-29697.PMID:30038713

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References

[1] Stracke S, Ramudo L, Keller F, et al. Antiproliferative and overadditive effects of everolimus and mycophenolate mofetil in pancreas and lung cancer cells in vitro. Transplantation proceedings. Elsevier, 2006, 38(3): 766-770.

[2] Mabuchi S, Altomare D A, Connolly D C, et al. RAD001 (Everolimus) delays tumor onset and progression in a transgenic mouse model of ovarian cancer. Cancer Research, 2007, 67(6): 2408-2413.

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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