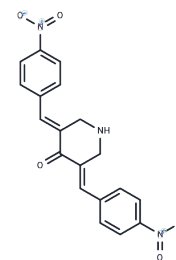


RA-9

## Chemical Properties

CAS No. : 919091-63-7  
 Formula: C<sub>19</sub>H<sub>15</sub>N<sub>3</sub>O<sub>5</sub>  
 Molecular Weight: 365.34  
 Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year  
 Actual storage temperature shall be subject to the COA.



## Biological Description

Description	RA-9 is a potent and selective proteasome-associated inhibitor of deubiquitinating enzymes (DUBs) with a favorable toxicity profile and anticancer activity, particularly effective in inducing apoptosis in ovarian cancer cell lines.
Targets(IC50)	Apoptosis,DUB
In vitro	The characterization of RA-9 as a small-molecule inhibitor of proteasome-associated DUBs. Treatment with RA-9 selectively induces onset of apoptosis in ovarian cancer cell lines and primary cultures derived from donors. Loss of cell viability following RA-9 exposure is associated with an unfolded protein response as mechanism to compensate for unsustainable levels of proteotoxic stress.
In vivo	In vivo treatment with RA-9 retards tumor growth, increases overall survival, and was well tolerated by the host.
Animal Research	Mice were inoculated i.p. with 100,000 ES-2 cells (in 100 µl DMEM) stably expressing GFP. When tumor was detectable (approx. 26 days post inoculation), mice were randomly assigned into two groups receiving RA-9 or 0.9% saline. Treatment with RA-9 was given i.p. on a one-day on, two-days off schedule. The control group received the vehicle alone at the same schedule. Working concentrations of RA-9 (10 mg/ml) were reached by dissolution in Cremophor EL and polyethylene glycol 400 (Sigma). Prior to each injection RA-9 was further diluted in 0.9% saline (working concentration 1mg/ml). To monitor for tumor growth, RA-9 treated and control mice were imaged with an IVIS SpectrumCT Pre-clinical in vivo imaging system (PerkinElmer) every other day. Animals were sacrificed when abdomens became distended to twice normal size.

## Solubility Information

Solubility	DMSO: 4 mg/mL (10.95 mM), Sonication and heating to 80°C are recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	2.7372 mL	13.6859 mL	27.3718 mL
5 mM	0.5474 mL	2.7372 mL	5.4744 mL
10 mM	0.2737 mL	1.3686 mL	2.7372 mL
50 mM	0.0547 mL	0.2737 mL	0.5474 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Coughlin K , Anchoori R , Iizuka Y , et al. Small-molecule RA-9 inhibits proteasome-associated DUBs and ovarian cancer in vitro and in vivo via exacerbating unfolded protein responses.[J]. Clinical Cancer Research An Official Journal of the American Association for Cancer Research, 2014, 20(12):3174-86.

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