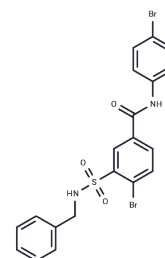


RS-1

## Chemical Properties

CAS No. : 312756-74-4  
 Formula: C<sub>20</sub>H<sub>16</sub>Br<sub>2</sub>N<sub>2</sub>O<sub>3</sub>S  
 Molecular Weight: 524.23  
 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	RS-1 is a RAD51 activator. RS-1 also increases CRISPR/Cas9-mediated knock-in efficiencies.
Targets(IC50)	CRISPR/Cas9,DNA/RNA Synthesis
In vitro	RS-1 serves as an activator of RAD51, enhancing the binding affinity of hRAD51 to DNA, with a dissociation constant (Kd) between 48 nM and 107 nM, in conditions containing ATP or ADP and even in the absence of nucleotide cofactors, without inhibiting ATPase activity of RAD51. At a concentration of 20 μM, RS-1 alters the length and helical pitch of hRAD51-DNA complexes. Furthermore, RS-1 progressively augments the strand assimilation activity of hRAD51 across a range of concentrations (0, 1, 5, 10, 15, 20, and 25 μM). At 7.5 μM, it bolsters human cells' resilience to cross-linking agents used in chemotherapy[1]. In addition, RS-1 enhances Cas9-mediated gene editing efficiency in rabbit embryos at concentrations of 0, 7.5, and 15 μM[2].

## Solubility Information

Solubility	DMSO: 250 mg/mL (476.89 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 10 mg/mL (19.08 mM),Suspension. 10% DMSO+90% Saline: < 10 mg/mL (19.08 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	1.9076 mL	9.5378 mL	19.0756 mL
5 mM	0.3815 mL	1.9076 mL	3.8151 mL
10 mM	0.1908 mL	0.9538 mL	1.9076 mL
50 mM	0.0382 mL	0.1908 mL	0.3815 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

Jayathilaka K, et al. A chemical compound that stimulates the human homologous recombination protein RAD51. Proc Natl Acad Sci U S A. 2008 Oct 14;105(41):15848-53.

Song J, et al. RS-1 enhances CRISPR/Cas9- and TALEN-mediated knock-in efficiency. Nat Commun. 2016 Jan 28;7:10548.

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