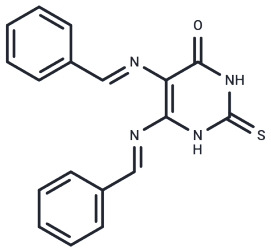
# Data Sheet (Cat.No.T3340)

TargetMol

SCR7

## Chemical Properties



CAS No. : 1533426-72-0

Formula: C18H14N4OS

Molecular Weight: 334.4

Storage: Store at low temperature
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

## Biological Description

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|---|---|
| Description | SCR7, a specific DNA Ligase IV inhibitor, blocks nonhomologous end-joining (NHEJ). |
| Targets(IC50) | Apoptosis,CRISPR/Cas9,DNA/RNA Synthesis |
| In vitro | In a Swiss albino mouse model loaded with Dalton's lymphoma, intraperitoneal injection of SCR7 (20 mg/kg) fails to reduce tumor size. Conversely, in BALB/c mice, intraperitoneal injection of SCR7 (20 mg/kg) enhances the cytotoxic effects of radiation, etoposide, and 3-aminobenzamide on derived tumors of Dalton's lymphoma cells. |
| In vivo | SCR7 exhibits significant inhibition of cell proliferation across various cell lines, with IC50 values reported as follows: 40 μM in MCF7 cells, 34 μM in A549 cells, 44 μM in HeLa cells, 8.5 μM in T47D cells, 120 μM in A2780 cells, 10 μM in HT1080 cells, and 50 μM in Nalm6 cells. |
| Kinase Assay | Complementation of SCR7 Inhibition with Puri?ed Ligase IV: Complementation experiment is carried out by adding increasing concentrations of puri?ed Ligase IV/XRCC4 complex (30, 60, and 120 fmol) along with the oligomeric DNA substrates (5' compatible and 5'-5' noncompatible ends) to the SCR7-treatedextracts. Reactions are incubated for 2 h at 25°C. The reaction products are then resolved on 8% denaturing PAGE. The gel is dried and exposed and the signal is detected with a PhosphorImager and analyzed with Multi Gauge (V3.0) software. |
| Cell Research | SCR7 is dissolved in DMSO and stored, and then diluted with appropriate medium before use[3]. Wild-type, AAVS1TLR HEK293 and mouse NIH3T3 cells are maintained in DMEM supplied with 15% FBS, cells are passaged three times per week. The mouse Burkitt lymphoma cell line, generated from a Burkitt-like mouse lymphoma is maintained in DMEM supplied with 15% FBS, 2 mM HEPES, 2 mM sodium pyruvate, 2 mM L-glutamine, and 1× NAA, beta-mercaptoethanol and passaged four times per week. For puromycin selection, mCherry+ cells are sorted, seeded at 103 cells/well and selected with 3 mg/mL of Puromycin for 2 weeks. Then colonies are counted and single cells are sorted. The SCR7 inhibitor is purchased, 12 h after transfection these cells are maintained in complete medium supplied with 1 mM SCR7 inhibitor until analysis. At SCR7 concentrations of 60 mM and 10 mM, A reduction of transfection efficiency and of cell viability is observed[3]. |

## Solubility Information

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|---|---|
| Solubility | DMSO: 45 mg/mL (134.57 mM),Sonication is recommended.<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |
| In vivo Formulation | 10% DMSO+40% PEG300+5% Tween-80+45% Saline: 2 mg/mL (5.98 mM),Sonication is recommended.<br>*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.* |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|---|---|---|---|
| 1 mM | 2.9904 mL | 14.9522 mL | 29.9043 mL |
| 5 mM | 0.5981 mL | 2.9904 mL | 5.9809 mL |
| 10 mM | 0.299 mL | 1.4952 mL | 2.9904 mL |
| 50 mM | 0.0598 mL | 0.299 mL | 0.5981 mL |

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

Srivastava M, et al. An inhibitor of nonhomologous end-joining abrogates double-strand break repair and impedes cancer progression. Cell. 2012 Dec 21;151(7):1474-87.

Lin C, et al. Increasing the Efficiency of CRISPR/Cas9-mediated Precise Genome Editing of HSV-1 Virus in Human Cells. Sci Rep. 2016 Oct 7;6:34531.

Chu VT, et al. Increasing the efficiency of homology-directed repair for CRISPR-Cas9-induced precise gene editing inmammalian cells.Nat Biotechnol. 2015 May;33(5):543-8.



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