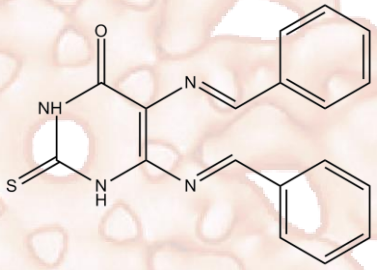
Product Data Sheet

SCR7



Cat. No.:	A8705
CAS No.:	1533426-72-0
Formula:	C18H14N4OS
M.Wt:	334.39
Synonyms:	
Target:	DNA Damage/DNA Repair
Pathway:	DNA Ligases
Storage:	Store at -20°C

Solvent & Solubility

In Vitro

≥16.7195mg/mL in DMSO

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1mg	5mg	10mg
1 mM	2.9905 mL	14.9526 mL	29.9052 mL
5 mM	0.5981 mL	2.9905 mL	5.9810 mL
10 mM	0.2991 mL	1.4953 mL	2.9905 mL

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

Biological Activity

Shortsummary	DNA ligase IV inhibitor
IC_{50} & Target	

In Vitro

Cell Viability Assay

Cell Line:	Epithelial (A549) and melanoma (MelJuSo) cell line derivatives
Preparation method:	Soluble in DMSO > 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:	24 hours at 37°C
Applications:	Scr7 increases the efficiency of insertional mutagenesis in cell lines. In A549 cells, 0.01 μM Scr7 improves the efficiency of insertion at the target site about

		threefold relative to the untreated control. In Scr7-treated MelJuSo cells, the insertion efficiency is also enhanced in a dose-dependent manner up to 19-fold.
In Vivo	**Animal experiment**	
	Animal models:	Kell-LPETG mice
	Dosage form:	CRISPR components mixture (Cas9 mRNA, sgRNA and targeting template) and 10 mM of Scr7 NHEJ inhibitor (to 1 mM final) were injected into the cytoplasm at the pronuclear stage. The injected zygotes were transferred at the 2-cell stage into the pseudo-pregnant females.
	Applications:	Co-injection of Scr7 increases the efficiency of precise genome editing in mouse embryos. The insertion efficiency with Scr7 co-injection is significantly higher (P = 0.0012) compared to blastocysts not injected with Scr7. The insertion efficiency in Scr7-co-injected E10 embryos is also significantly enhanced compared to E10 embryos not injected with Scr7 (P = 0.003).
	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. Lampi Y, Van Looveren D, et al. "Targeted editing of the PSIP1 gene encoding LEDGF/p75 protects cells against HIV infection." Sci Rep. 2019 Feb 20;9(1):2389.PMID:30787394

2. Krüger K, Geist K, et al. "Multiple DNA damage-dependent and DNA damage-independent stress responses define the outcome of ATR/Chk1 targeting in medulloblastoma cells." Cancer Lett. 2018 May 16;430:34-46.PMID:29753759

3. Fernandez-Godino R, Bujakowska KM, Pierce EA. "Changes in extracellular matrix cause RPE cells to make basal deposits and activate the alternative complement pathway." Hum Mol Genet. 2018 Jan 1;27(1):147-159.PMID:29095988

4.Huberman LB, Coradetti ST, Glass NL. "Network of nutrient-sensing pathways and a conserved kinase cascade integrate osmolarity and carbon sensing in Neurospora crassa." Proc Natl Acad Sci U S A. 2017 Oct 10;114(41):E8665-E8674.PMID:28973881

5.Hindriksen S, Bramer AJ, et al. "Baculoviral delivery of CRISPR/Cas9 facilitates efficient genome editing in human cells." PLoS One. 2017 Jun 22;12(6):e0179514.PMID:28640891

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References

1. Maruyama T, Dougan SK, Truttmann MC et al. Increasing the efficiency of precise genome editing with CRISPR-Cas9 by inhibition of nonhomologous end joining. Nat Biotechnol. 2015 May;33(5):538-42.

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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