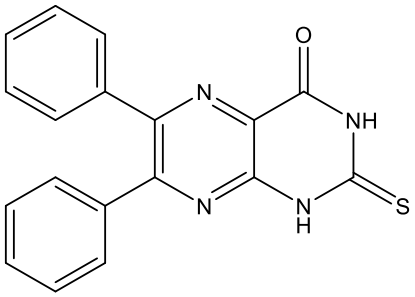
Catalog #10-3652

SCR7 pyrazine

CAS# 14892-97-8

2,3-Dihydro-6,7-diphenyl-2-thioxo-4(1H)-pteridinone; SCR7-G; SCR7-X

Lot # X109237



SCR7 pyrazine enhances the efficiency of precise genome editing with CRISPR/Cas9 up to 19-fold via inhibition of nonhomologous end joining (NHEJ).[1,2] May be employed in an optimized CRISPR/Cas9 method to target methylation in a site-specific manner enabling maintenance of gene silencing *in vitro* and *in vivo.*[3] SCR7 pyrazine exhibits greater activity against DNA ligases I and III than DNA ligase IV.[4] Induces cancer cell death *via* inhibition of NHEJ and potentiates the effect of double strand break-inducing therapeutic modalities.[4,5]

1) Maruyama *et al.* (2015), *Increasing the efficiency of precise genome editing with CRISPR-Cas9 by inhibition of nonhomologous end joining*; Nat. Biotechnol. **33** 538
2) Chu *et al.* (2015), *Increasing the efficiency of homology-directed repair for CRISPR-Cas9-induced precise gene editing in mammalian cells*; Nat. Biotechnol. **33** 543
3) Wang *et al.* (2022), *CRISPR/Cas9-mediated epigenetic editing tool: An optimized strategy for targeting de novo DNA methylation with stable status via homology directed repair pathway*; Nat. Med. **202** 190
4) Greco *et al.* (2016), *SCR7 is neither a selective nor a potent inhibitor of human DNA ligase IV*; DNA Repair (Amst) **43** 18
5) Vartak *et al.* (2018), *Autocyclized and oxidized forms of SCR7 induce cancer cell death by inhibiting nonhomologous DNA end joining in a Ligase IV dependent manner*; FEBS J. **285** 3959

PHYSICAL DATA

Molecular Weight:	332.38
Molecular Formula:	$C_{18}H_{12}N_4OS$
Purity:	>98% (TLC) NMR: (Conforms)
Solubility:	DMSO (35 mg/mL)
Physical Description:	Yellow solid
Storage and Stability:	Store as supplied at -20°C for up to 2 years from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 1 month.

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