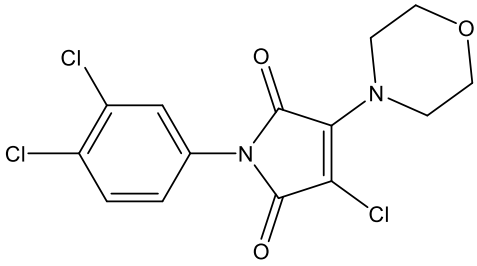
Catalog # 10-1617

RI-1

CAS# 415713-60-9

3-Chloro-1-(3,4-dichlorophenyl)-4-(4-morpholinyl)-1H-pyrrole-2,5-dione

Lot # S104018



RI-1 is a potent and selective inhibitor of RAD51 (IC_{50} = 5-30 μM), a highly conserved protein that catalyzes DNA repair via homologous recombination.[1] It specifically reduces gene conversion in human cells and stimulates single strand annealing. It covalently binds to Cys319 on the surface of RAD51 and disrupts protein-protein interaction. It potentiates the effect of DNA-damaging agents on tumor cells and is a novel tool for studying DNA repair in cells.[2] Potentiates the killing of glioblastoma cells by ionizing radiation[3] and alkylating drugs[4].

1) Anand *et al*. (2017), *Rad51-mediated double-strand break repair and mismatch correction of divergent substrates*; Nature, **544** 377

2) Budke *et al*. (2012), *RI-1: a chemical inhibitor of RAD51 that disrupts homologous recombination in human cells*; Nucleic Acids Res., **40** 7347

3) Balbous *et al*. (2016), *A radiosensitizing effect of RAD51 inhibition in glioblastoma stem-like cells*; BMC Cancer, **16** 604

4) Berte *et al*. (2016), *Targeting Homologous Recombination by Pharmacological Inhibitors Enhances the Killing response of Glioblastoma Cells Treated with Alkylating Drugs*; Mol. Cancer Ther., **15** 2665

PHYSICAL DATA

Molecular Weight:	361.61
Molecular Formula:	$C_{14}H_{11}Cl_3N_2O_3$
Purity:	98% by TLC
	NMR: (Conforms)
Solubility:	DMSO (up to 45 mg/ml) or Ethanol (up to 10 mg/ml with warming)
Physical Description:	Yellow solid
Storage and Stability:	Store as supplied at -20°C for up to 1 year from the date of purchase. Solutions in DMSO or ethanol may be stored at -20°C for up to 2 months.

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