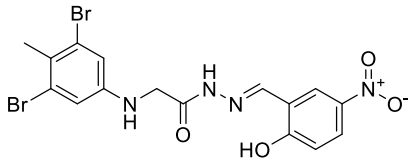
Product data sheet

MedKoo Cat#: 407299 Name: L67 CAS#: 325970-71-6 Chemical Formula: $C_{16}H_{14}Br_2N_4O_4$ Exact Mass: 483.9382 Molecular Weight: 486.12	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
L67 is a DNA Ligase Inhibitor. L67 inhibited DNA ligases I and III. L67 is a simple competitive inhibitor with respect to nicked DNA. L67 inhibits DNA ligases I and III with IC_{50} values of 10 μM and 10 μM.). L67 significantly increased the cytotoxicity of DNA-damaging.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	21.5	44.23
DMF	10.0	20.57
Water	1.0	2.06

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.06 mL	10.29 mL	20.57 mL
5 mM	0.41 mL	2.06 mL	4.11 mL
10 mM	0.21 mL	1.03 mL	2.06 mL
50 mM	0.04 mL	0.21 mL	0.41 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Sallmyr A, Matsumoto Y, Roginskaya V, Van Houten B, Tomkinson AE. Inhibiting Mitochondrial DNA Ligase IIIα Activates Caspase 1-Dependent Apoptosis in Cancer Cells. Cancer Res. 2016 Sep 15;76(18):5431-41. doi: 10.1158/0008-5472.CAN-15-3243. Epub 2016 Aug 8. PMID: 27503931; PMCID: PMC5036517.

In vivo study

TBD

7. Bioactivity
Biological target:

L67 is a novel, competitive human DNA ligase inhibitor, inhibits DNA ligases I and III with IC50 of 10 μM and 10 μM.

In vitro activity

To determine the mechanisms underlying the cytotoxicity of the LigI/III inhibitor L67, derivatives of cell lines established from cervical (HeLa, Supplementary Figure S1A), breast (MDA-MB-231) and colon (HCT116) cancers that lack mito DNA (Rho minus)

Product data sheet

were selected by growth in the presence of ethidium bromide, pyruvate and uridine. HeLa cells with abnormal mitochondria that lack mitochondrial DNA (Supplementary Figure S1A and B) were more resistant to L67 in colony forming (Fig. 1A) and cell proliferation assays (Fig. 1B) with the absence of mitochondrial DNA increasing the IC50 from 8.2 µM to 29.7 µM (Supplementary Table 1). The differential effect of L67 on HeLa and HeLa Rho minus cells was also observed when HeLa cells were grown in the media containing pyruvate and uridine (Supplementary Figure S1C). MDA-MB-231 and HCT 116 cells lacking mitochondrial DNA were also more resistant to L67 compared with their respective parental cells (Fig. 1C and D, and Supplementary Table 1), suggesting that, at lower concentrations, L67 causes cell death by targeting mitochondrial function.

Reference: Cancer Res. 2016 Sep 15; 76(18): 5431–5441. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5036517/

In vivo activity

TBD

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.