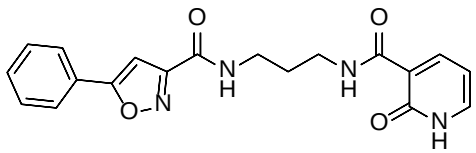
Product data sheet

MedKoo Cat#: 407921 Name: ML327 CAS: 1883510-31-3 Chemical Formula: $C_{19}H_{18}N_4O_4$ Exact Mass: 366.1328 Molecular Weight: 366.377	
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:
ML327 is a blocker of MYC. ML327 mediated transcriptional de-repression of E-cadherin and inhibition of epithelial-to-mesenchymal transition. ML327 induces apoptosis and sensitizes Ewing sarcoma cells to TNF-related apoptosis-inducing ligand. ML327 blocks MYC expression and tumor formation in neuroblastoma.

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	41.0	111.91

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.73 mL	13.65 mL	27.29 mL
5 mM	0.55 mL	2.73 mL	5.46 mL
10 mM	0.27 mL	1.36 mL	2.73 mL
50 mM	0.06 mL	0.27 mL	0.55 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. Rellinger EJ, Padmanabhan C, Qiao J, Appert A, Waterson AG, Lindsley CW, Beauchamp RD, Chung DH. ML327 induces apoptosis and sensitizes Ewing sarcoma cells to TNF-related apoptosis-inducing ligand. Biochem Biophys Res Commun. 2017 Sep 16;491(2):463-468. doi: 10.1016/j.bbrc.2017.07.050. Epub 2017 Jul 14. PMID: 28716733; PMCID: PMC5564678.

2. Padmanabhan C, Rellinger EJ, Zhu J, An H, Woodbury LG, Chung DH, Waterson AG, Lindsley CW, Means AL, Beauchamp RD. cFLIP critically modulates apoptotic resistance in epithelial-to-mesenchymal transition. Oncotarget. 2017 Jul 25;8(60):101072-101086. doi: 10.18632/oncotarget.19557. PMID: 29254146; PMCID: PMC5731856.

In vivo study

1. Rellinger EJ, Padmanabhan C, Qiao J, Craig BT, An H, Zhu J, Correa H, Waterson AG, Lindsley CW, Beauchamp RD, Chung DH. Isoxazole compound ML327 blocks MYC expression and tumor formation in neuroblastoma. Oncotarget. 2017 Jul 20;8(53):91040-91051. doi: 10.18632/oncotarget.19406. PMID: 29207623; PMCID: PMC5710904.

2. An H, Stoops SL, Deane NG, Zhu J, Zi J, Weaver C, Waterson AG, Zijlstra A, Lindsley CW, Beauchamp RD. Small molecule/ML327 mediated transcriptional de-repression of E-cadherin and inhibition of epithelial-to-mesenchymal transition. Oncotarget. 2015 Sep 8;6(26):22934-48. doi: 10.18632/oncotarget.4473. PMID: 26082441; PMCID: PMC4673210.

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7. Bioactivity

Biological target:

ML327 is a blocker of MYC which can also de-repress E-cadherin transcription and reverse Epithelial-to-Mesenchymal Transition (EMT).

In vitro activity

This study tested whether ML327 broadly regulates markers of EMT in several carcinoma cell lines independently of TGF-β treatment and therefore performed RNA sequencing (RNAseq) on HCT-116, SW620, and A549 cancer cell lines treated with 10 μM ML327 (or vehicle control) for 24 hours (Supplementary Tables 1–3). Sequencing data demonstrated similar gene expression changes across all 3 cancer cell lines with 730 commonly upregulated genes and 37 commonly downregulated genes (Supplementary Table 4). EMT and stem cell markers that are typically upregulated during EMT were downregulated after ML327 treatment (Figure 1A).

Reference: Oncotarget. 2017 Jul 25;8(60):101072-101086. https://pubmed.ncbi.nlm.nih.gov/29254146/

In vivo activity

Given the established role of N-MYC in neuroblastoma tumorigenesis, this study sought to characterize the preclinical efficacy of ML327 in established neuroblastoma mouse xenografts. ML327 treatment significantly reduced tumor volume by three-fold over the two-week treatment period (Figure 5A; $p = 0.02$). Similarly, tumor explant weights were approximately three-fold smaller in the ML327-treated mice (Figure 5B; $p = 0.01$).

Reference: Oncotarget. 2017 Jul 20;8(53):91040-91051. https://pubmed.ncbi.nlm.nih.gov/29207623/

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.