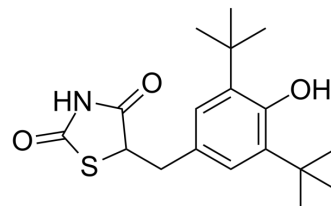


## NL-1

<b>Cat. No.:</b>	HY-135231		
<b>CAS No.:</b>	188532-26-5		
<b>Molecular Formula:</b>	C <sub>18</sub> H <sub>25</sub> NO <sub>3</sub> S		
<b>Molecular Weight:</b>	335.46		
<b>Target:</b>	Mitochondrial Metabolism; Autophagy		
<b>Pathway:</b>	Metabolic Enzyme/Protease; Autophagy		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 250 mg/mL (745.25 mM; Need ultrasonic)			
		Solvent Concentration	Mass	
			1 mg	5 mg
			10 mg	
<b>Preparing Stock Solutions</b>	<b>1 mM</b>	2.9810 mL	14.9049 mL	29.8098 mL
	<b>5 mM</b>	0.5962 mL	2.9810 mL	5.9620 mL
	<b>10 mM</b>	0.2981 mL	1.4905 mL	2.9810 mL
Please refer to the solubility information to select the appropriate solvent.				
<b>In Vivo</b>	<ol style="list-style-type: none"> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: ≥ 2.08 mg/mL (6.20 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (6.20 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.08 mg/mL (6.20 mM); Clear solution</li> </ol>			

### BIOLOGICAL ACTIVITY

<b>Description</b>	NL-1 is a mitoNEET inhibitor with antileukemic effect. NL-1 inhibits REH and REH/Ara-C cells growth with IC <sub>50</sub> s of 47.35 μM and 56.26 μM, respectively. NL-1-mediated death in leukemic cells requires the activation of the autophagic pathway <sup>[1]</sup> .
<b>IC<sub>50</sub> &amp; Target</b>	MitoNEET <sup>[1]</sup>
<b>In Vitro</b>	NL-1 (10-100 μM; 72 hours; REH, REH/Ara-C and ALL cell lines) treatment reduces the number of viable cells in REH, REH/Ara-C and ALL (SUP-B15, TOM-1, JM1, NALM-1, NALM-6, BV-173) cell lines, in a concentration-dependent manner. NL-1 inhibits

SUPB15, NALM6 with IC<sub>50</sub>s of 29.48 μM, 94.26 μM, respectively. TOM1, BV173, NALM1 and JM1 all have similar IC<sub>50</sub> values of around 60 μM for NL-1<sup>[1]</sup>.

NL-1 (60 μM; 6 hours; REH, REH/Ara-C cell lines) treatment mediates autophagy, and inhibition of autophagy partially decreased NL-1-induced tumor cell death<sup>[1]</sup>.

NL-1 pretreatment inhibits the chemotactic ability of both REH and REH/Ara-C cells to migrate towards multiple chemoattractants. The cells treated with NL1 shows a dose-dependent decrease in chemotaxis both in the REH and the REH/AraC cells<sup>[1]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### Cell Proliferation Assay<sup>[1]</sup>

Cell Line:	REH, REH/Ara-C and ALL (SUP-B15, TOM-1, JM1, NALM-1, NALM-6, BV-173) cell lines
Concentration:	10 μM, 20 μM, 30 μM, 40 μM, 50 μM, 60 μM, 70 μM, 80 μM, 100 μM
Incubation Time:	72 hours
Result:	Reduced the number of viable cells in REH, REH/Ara-C and ALL (SUP-B15, TOM-1, JM1, NALM-1, NALM-6, BV-173) cell lines, in a concentration-dependent manner.

#### Cell Autophagy Assay<sup>[1]</sup>

Cell Line:	REH, REH/Ara-C cell lines
Concentration:	60 μM
Incubation Time:	6 hours
Result:	Induced cell autophagy.

#### In Vivo

NL-1 (10 mg/kg; intraperitoneal injection; daily; for 5 days; female NSG mice) treatment shows antileukemic activity in an in vivo mouse ALL model<sup>[1]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	10 female NOD.Cg-Prkdc <sup>scid</sup> Il2rg <sup>tm1Wjl</sup> /SzJ (NSG) mice (6-8 month old) injected with TOM-1 ALL cells <sup>[1]</sup>
Dosage:	10 mg/kg
Administration:	Intraperitoneal injection; daily; for 5 days
Result:	Showed antileukemic activity in an in vivo mouse ALL model.

## REFERENCES

[1]. Geldenhuys WJ, et al. The MitoNEET Ligand NL-1 Mediates Antileukemic Activity in Drug-Resistant B-Cell Acute Lymphoblastic Leukemia. J Pharmacol Exp Ther. 2019 Jul;370(1):25-34.

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA