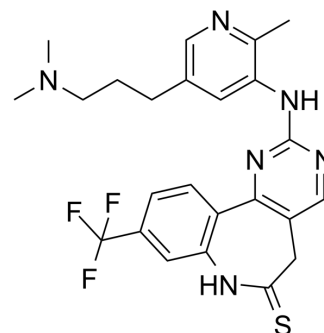


## MLN0905

<b>Cat. No.:</b>	HY-15155		
<b>CAS No.:</b>	1228960-69-7		
<b>Molecular Formula:</b>	C <sub>24</sub> H <sub>25</sub> F <sub>3</sub> N <sub>6</sub> S		
<b>Molecular Weight:</b>	486.56		
<b>Target:</b>	Polo-like Kinase (PLK)		
<b>Pathway:</b>	Cell Cycle/DNA Damage		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : ≥ 30 mg/mL (61.66 mM)  
 \* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent		1 mg	5 mg	10 mg
	Concentration	Mass			
	1 mM		2.0552 mL	10.2762 mL	20.5525 mL
	5 mM		0.4110 mL	2.0552 mL	4.1105 mL
	10 mM		0.2055 mL	1.0276 mL	2.0552 mL

Please refer to the solubility information to select the appropriate solvent.

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
 Solubility: ≥ 2.5 mg/mL (5.14 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
 Solubility: ≥ 2.5 mg/mL (5.14 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
 Solubility: ≥ 2.5 mg/mL (5.14 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

MLN0905 is a potent, orally active Polo-like kinase 1 (PLK1) inhibitor. MLN0905 has inhibitory potency against PLK1 with an IC<sub>50</sub> value of 2 nM. MLN0905 can be used for the research of cancer<sup>[1][2]</sup>.

#### IC<sub>50</sub> & Target

PLK1  
 2 nM (IC<sub>50</sub>)

<b>In Vitro</b>	<p>MLN0905 (compound 12c) has inhibitory potency against PLK1 with an IC<sub>50</sub> value of 2 nM<sup>[1]</sup>.  MLN0905 exhibits potent activities for Cdc25C with an EC<sub>50</sub> value of 33 nM<sup>[1]</sup>.  MLN0905 shows inhibitory effects on HT29, HCT116, H460, and A375 cell lines with LD<sub>50</sub> values of 22 nM, 56 nM, 89 nM and 34 nM, respectively<sup>[1]</sup>.  MLN0905 (125 nM) shows strong mitotic arrest and monopolar spindle formation in HT-29 cells<sup>[1]</sup>.  MLN0905 suppresses the growth of lymphoma cell lines with IC<sub>50</sub> values ranging from 3 - 24 nM<sup>[2]</sup>.  MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>								
<b>In Vivo</b>	<p>MLN0905 (p.o.; 50 mg/kg) shows a high sustained PD response in nude mice HT29 xenograft tumors<sup>[1]</sup>.  MLN0905 (p.o.; 6.25, 12.5, 25, 50 mg/kg) exhibits significant antitumor activities in mice HT29 xenograft tumors<sup>[1]</sup>.  MLN0905 (p.o.; 0-14.5 mg/kg; daily, QD×3/week) has marked antitumor effects in kinds of lymphoma xenograft model<sup>[1][2]</sup>.  MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1" data-bbox="345 552 1515 785"> <tr> <td>Animal Model:</td> <td>Tumor (HT29) xenograft model<sup>[1]</sup></td> </tr> <tr> <td>Dosage:</td> <td>0-50 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>P.O; daily, QD×3/week</td> </tr> <tr> <td>Result:</td> <td>Observed antitumor activity, tumor stasis or regression and well-tolerated oral doses.</td> </tr> </table>	Animal Model:	Tumor (HT29) xenograft model <sup>[1]</sup>	Dosage:	0-50 mg/kg	Administration:	P.O; daily, QD×3/week	Result:	Observed antitumor activity, tumor stasis or regression and well-tolerated oral doses.
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Result:	Observed antitumor activity, tumor stasis or regression and well-tolerated oral doses.								

## CUSTOMER VALIDATION

- Theranostics. 2022; 12(8): 3911-3927.
- Cell Death Dis. 2023 Oct 23;14(10):695.
- PLoS Negl Trop Dis. 2016 Jan 11;10(1):e0004356.
- Department of Pathology. University of California. 2016.

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## REFERENCES

- [1]. Duffey MO, et al. Discovery of a potent and orally bioavailable benzolactam-derived inhibitor of Polo-like kinase 1 (MLN0905). J Med Chem. 2012 Jan 12;55(1):197-208.
- [2]. Shi JQ, et al. MLN0905, a small-molecule plk1 inhibitor, induces antitumor responses in human models of diffuse large B-cell lymphoma. Mol Cancer Ther. 2012 Sep;11(9):2045-53.

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

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