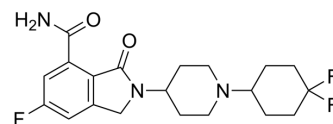


## NMS-P118

<b>Cat. No.:</b>	HY-18954		
<b>CAS No.:</b>	1262417-51-5		
<b>Molecular Formula:</b>	C <sub>20</sub> H <sub>24</sub> F <sub>3</sub> N <sub>3</sub> O <sub>2</sub>		
<b>Molecular Weight:</b>	395.42		
<b>Target:</b>	PARP		
<b>Pathway:</b>	Cell Cycle/DNA Damage; Epigenetics		
<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 : 16 mg/mL (40.46 mM; Need ultrasonic and warming)

Solvent	Mass	Concentration		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	2.5290 mL	12.6448 mL	25.2896 mL
	5 mM	0.5058 mL	2.5290 mL	5.0579 mL
	10 mM	0.2529 mL	1.2645 mL	2.5290 mL

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

### BIOLOGICAL ACTIVITY

<b>Description</b>	NMS-P118 is a potent, orally available, and highly selective PARP-1 Inhibitor for cancer therapy.	
<b>IC<sub>50</sub> &amp; Target</b>	PARP-1 9 nM (Kd)	PARP-2 1390 nM (Kd)
<b>In Vitro</b>	<p>NMS-P118 is found to be less myelotoxic in vitro than olaparib, a dual PARP-1/-2 inhibitor. NMS-P118 proves to be metabolically stable, it modestly inhibits two cytochrome P450 family members (CYP-2B6 IC<sub>50</sub>: 8.15 μM; CYP-2D6 IC<sub>50</sub>: 9.51 μM) out of eight isoforms tested. Its ability in hampering the proliferation of bone marrow cells is from 5 to &gt; 60 times lower than olaparib according to the species<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>	
<b>In Vivo</b>	<p>NMS-P118 is a potent (K<sub>D</sub>=0.009 μM) PARP-1 inhibitor, showing 150-fold selectivity over PARP-2 (K<sub>D</sub>=1.39 μM). NMS-P118 possesses excellent pharmacokinetic profile and nearly complete oral bioavailability both in mice and rats. It proved to be highly efficacious in vivo both as single agent in MDA-MB-436 human breast cancer tumors and in combination with temozolomide in CAPAN-1 human pancreatic tumors growing as xenografts in the mouse. The compound is well tolerated at</p>	

highly efficacious doses and is endowed with an excellent ADME profile<sup>[1]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## PROTOCOL

### Kinase Assay <sup>[1]</sup>

NMS-P118 is profiled on 56 different kinases (ABL, ACK1, AKT1, ALK, AUR1, AUR2, BRK, BUB1, CDC7/DBF4, CDK2/CYCA, CHK1, CK2, EEF2K, EGFR1, ERK2, EphA2, FAK, FGFR1, FLT3, GSK3beta, Haspin, IGFR1, IKK2, IR, JAK1, JAK2, JAK3, KIT, LCK, LYN, MAPKAPK2, MELK, MET, MNK2, MPS1, MST4, NEK6, NIM1, P38alpha, PAK4, POLYDATINGFRb, POLYDATINK1, PERK, PIM1, PIM2, PKAalpha, PKCbeta, PLK1, RET, SULU1, Syk, TLK2, TRKA, TYK2, VEGFR2, ZAP70). The IC<sub>50</sub> values are found to be >10 μM for all enzymes tested<sup>[1]</sup>.

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

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

NMS-P118 is dissolved in DMSO and diluted with appropriate medium before use. Cellular activity of PARP-1 inhibitors is assessed by measuring the inhibition of the hydrogen peroxide induced PAR formation in HeLa cells (ECACC). Cellular PAR levels are measured by immunocytochemistry, and quantified using an ArrayScan vTi instrument<sup>[1]</sup>.

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

### Animal Administration <sup>[1]</sup>

The pharmacokinetic profile and the oral bioavailability of the compounds have been investigated in rat in ad hoc pharmacokinetic studies. NMS-P118 is formulated for intravenous bolus administration in 20% DMSO + 40% PEG 400 in 5% dextrose. Oral administration is performed using a NMS-P118 suspension in 0.5% methylcellulose. A single administration at the dose of 10 mg/kg for each route and a single oral administration at the dose of 100 mg/kg are given. Three male animals for each study are used<sup>[1]</sup>.

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

## CUSTOMER VALIDATION

- Cell Death Dis. 2023 Aug 15;14(8):524.
- J Mol Med (Berl). 2019 Aug;97(8):1183-1193.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

[1]. Papeo G, et al. Discovery of 2-[1-(4,4-Difluorocyclohexyl)piperidin-4-yl]-6-fluoro-3-oxo-2,3-dihydro-1H-isoindole-4-carboxamide (NMS-P118): A Potent, Orally Available, and Highly Selective PARP-1 Inhibitor for Cancer Therapy. J Med Chem. 2015 Sep 10;58(17):6875-98.

**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](mailto:tech@MedChemExpress.com)

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