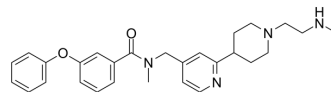


## TP-064

Cat. No.:	HY-114965		
CAS No.:	2080306-20-1		
Molecular Formula:	C <sub>28</sub> H <sub>34</sub> N <sub>4</sub> O <sub>2</sub>		
Molecular Weight:	458.6		
Target:	Histone Methyltransferase		
Pathway:	Epigenetics		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : 125 mg/mL (272.57 mM; ultrasonic and warming and heat to 60°C)  
 H<sub>2</sub>O : ≥ 50 mg/mL (109.03 mM)  
 \* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.1805 mL	10.9027 mL	21.8055 mL
	5 mM	0.4361 mL	2.1805 mL	4.3611 mL
	10 mM	0.2181 mL	1.0903 mL	2.1805 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: ≥ 2.08 mg/mL (4.54 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.08 mg/mL (4.54 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.08 mg/mL (4.54 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

TP-064 is a potent and selective proteinarginine methyltransferase 4 (PRMT4; CARM1) inhibitor (IC<sub>50</sub> <10 nM). TP-064 inhibits dimethylation of BAF155 (IC<sub>50</sub> of 340 nM) and MED12 (IC<sub>50</sub> of 43 nM). TP-064 is inactive against the other family members except for PRMT6 (IC<sub>50</sub> of 1.3 μM). TP-064 has anticancer activities<sup>[1]</sup>.

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

PRMT4

PRMT6

	<10 nM (IC <sub>50</sub> )	1300 μM (IC <sub>50</sub> )
<b>In Vitro</b>	<p>TP-064 (1 μM; 72 hours) treatment reduces the proportion of NCI-H929 cells in S and G2/M phases while increasing the G1 phase fraction<sup>[1]</sup>.</p> <p>TP-064 (0.03-3 μM; 72 hours) treatment reduces dimethyl-BAF155 level in a dose-dependent manner in both TP-064-sensitive and -insensitive cells<sup>[1]</sup>.</p> <p>TP-064 (10 nM-10 μM; 6 days) treatment inhibits the growth of NCI-H929, RPMI8226, and MM.1R cells in a dose-dependent manner, but had no effect on acute myeloid leukemia, colon cancer, or lung cancer cell lines<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Cycle Analysis<sup>[1]</sup></p>	
	Cell Line:	NCI-H929 cells
	Concentration:	1 μM
	Incubation Time:	72 hours
	Result:	Induced G1 cell cycle arrest in NCI-H929 cells.
	Western Blot Analysis <sup>[1]</sup>	
	Cell Line:	NCI-H929, KMS-27 and U266B1 cells
	Concentration:	0.03 μM, 0.1 μM, 0.3 μM, 1 μM, 3 μM
	Incubation Time:	72 hours
	Result:	Dimethyl-BAF155 level was reduced.
<b>In Vivo</b>	<p>TP-064 (10 mg/kg; i.p.; 3 times in 5 days) induces peritonitis-associated neutrophilia in C57BL/6 mice<sup>[2]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>	

## CUSTOMER VALIDATION

- Cell Death Differ. 2022 Oct;29(10):1982-1995.

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

## REFERENCES

[1]. Kazuhide Nakayama, et al. TP-064, a potent and selective small molecule inhibitor of PRMT4 for multiple myeloma. *Oncotarget*. 2018 Apr 6;9(26):18480-18493.

[2]. Yiheng Zhang, et al. PRMT4 inhibitor TP-064 inhibits the pro-inflammatory macrophage lipopolysaccharide response in vitro and ex vivo and induces peritonitis-associated neutrophilia in vivo. *Biochim Biophys Acta Mol Basis Dis*. 2021 Jul 24;1867(11):166212.

---

**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