## MPP hydrochloride

Cat. No.:	HY-103454B	
CAS No.:	2863676-89-3	
Molecular Formula:	$C_{29}H_{32}CIN_{3}O_{3}$	HO
Molecular Weight:	506.04	N-N N
Target:	Estrogen Receptor/ERR; Apoptosis	N. COH
Pathway:	Vitamin D Related/Nuclear Receptor; Apoptosis	~ ~ 0 ~ H-Ci
Storage:	4°C, sealed storage, away from moisture	
	* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)	

## SOLVENT & SOLUBILITY

In Vitro	DMSO : 250 mg/mL (4	DMSO : 250 mg/mL (494.03 mM; Need ultrasonic)			
		Solvent Mass Concentration	1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	1.9761 mL	9.8806 mL	19.7613 mL
		5 mM	0.3952 mL	1.9761 mL	3.9523 mL
		10 mM	0.1976 mL	0.9881 mL	1.9761 mL
	Please refer to the so	lubility information to select the ap	propriate solvent.		
In Vivo		1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.08 mg/mL (4.11 mM); Clear solution			
		2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (4.11 mM); Clear solution			
		one by one: 10% DMSO >> 90% cor ng/mL (4.11 mM); Clear solution	rn oil		

BIOLOGICAL ACTIV	ТҮ	
Description	apoptosis in the endometrial	It and selective ER (estrogen receptor) modulator. MPP hydrochloride induces significant cancer and oLE cell lines. MPP hydrochloride reverses the the positive effects of beta-estradiol. dagonist/antagonist action on murine uterine ERalpha in vivo <sup>[1]</sup> .
IC <sub>50</sub> & Target	ΕRα	ERβ
In Vitro	MPP dihydrochloride shows a	uM; 24 h) decreases cell viability with an IC <sub>50</sub> value of 20.01 μM in RL95-2 cells <sup>[1]</sup> . antiproliferative activity at a concentration of 10 μM in RL95-2 cells <sup>[1]</sup> . 24 h) reduces the phosphorylation of ERα, while it does not alter the phosphorylation of Akt.

# Product Data Sheet



#### MPP dihydrochloride reduces the ratio of p-ER $\alpha$ /ER $\alpha$ <sup>[1]</sup>.

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

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

Cell Line:	RL95-2 endometrium cancer cells
Concentration:	1, 5, 10, 25, 50 and 100 μM
Incubation Time:	24 hours
Result:	The treatment with 25 μM, 50 μM and 100 μM for 24 h decreased cell viability significantly. However, cell viability was not significantly changed by MPP dihydrochloride at concentration below 25 μM.

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

Cell Line:	RL95-2 endometrium cancer cells
Concentration:	10, 15, 20 and 25 μM
Incubation Time:	72 hours
Result:	Showed antiproliferative activity at a concentration of 10 µM.

#### Western Blot Analysis<sup>[1]</sup>

Cell Line:	RL95-2 endometrium cancer cells
Concentration:	20 μΜ
Incubation Time:	24 hours
Result:	Reduced the phosphorylation of ERα, while it did not alter the phosphorylation of Akt. Reduced the ratio of p-ERα/ERα compared to the control group.

In Vivo

MPP (Low dose 20  $\mu$ g/kg body weight or high dose 200  $\mu$ g/kg body weight) leads to a dose-dependent attenuation of percent prepulse inhibition (PPI)<sup>[2]</sup>.

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Animal Model:	Male C57BL/6N mice at the age of 9-10 weeks <sup>[2]</sup>
Dosage:	Low dose (20 µg/kg body weight) or high dose (200 µg/kg body weight)
Administration:	Administered subcutaneously (s.c.) injected; injection volume of 5 mL/kg; 60 min before PPI testing
Result:	Led to a dose-dependent attenuation of percent PPI. Pretreatment with 200 $\mu g/kg$ reduced the mean percent PPI scores by ~30%.

## CUSTOMER VALIDATION

- Phytomedicine. 27 February 2022, 154022.
- Ecotoxicol Environ Saf. 2023 May 23;259:115060.

- Mol Nutr Food Res. 2021 Jul 5;e2100070.
- Metab Brain Dis. 2022 Jul 2.
- Eur J Inflamm. October 11, 2021.

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#### REFERENCES

[1]. Davis AM, et al. The effects of the selective estrogen receptor modulators, methyl-piperidino-pyrazole (MPP), and raloxifene in normal and cancerous endometrial cell lines and in the murine uterus. Mol Reprod Dev. 2006 Aug;73(8):1034-44.

[2]. Karaboğa Arslan AK, et al. α-Chaconine and α-Solanine Inhibit RL95-2 Endometrium Cancer Cell Proliferation by Reducing Expression of Akt (Ser473) and ERα (Ser167). Nutrients. 2018 May 25;10(6). pii: E672.

[3]. Labouesse MA, et al. Effects of selective estrogen receptor alpha and beta modulators on prepulse inhibition in male mice. Psychopharmacology (Berl). 2015 Aug;232(16):2981-94.

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

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