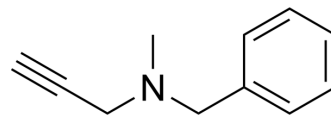


## Pargyline

<b>Cat. No.:</b>	HY-A0091A
<b>CAS No.:</b>	555-57-7
<b>Molecular Formula:</b>	C <sub>11</sub> H <sub>13</sub> N
<b>Molecular Weight:</b>	159.23
<b>Target:</b>	Monoamine Oxidase
<b>Pathway:</b>	Neuronal Signaling
<b>Storage:</b>	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 100 mg/mL (628.02 mM; Need ultrasonic)				
		Solvent Concentration	Mass		
	<b>Preparing Stock Solutions</b>		1 mg	5 mg	10 mg
		1 mM	6.2802 mL	31.4011 mL	62.8022 mL
		5 mM	1.2560 mL	6.2802 mL	12.5604 mL
	10 mM	0.6280 mL	3.1401 mL	6.2802 mL	
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (15.70 mM); Clear solution				
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (15.70 mM); Clear solution				
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (15.70 mM); Clear solution				

### BIOLOGICAL ACTIVITY

<b>Description</b>	Pargyline is an irreversible monoamine oxidase (MAO) inhibitor with K <sub>s</sub> of 13 μM and 0.5 μM for MAO-A and MAO-B, respectively. Pargyline has antihypertensive and anticancer activities <sup>[1][2][3]</sup> . Pargyline is a click chemistry reagent, it contains an Alkyne group and can undergo copper-catalyzed azide-alkyne cycloaddition (CuAAC) with molecules containing Azide groups.	
<b>IC<sub>50</sub> &amp; Target</b>	MAO-B 0.5 μM (Ki)	MAO-A 13 μM (Ki)
<b>In Vitro</b>	Pargyline (0.5-2 mM; 24-120 hours; LNCaP-LN3 cells) treatment inhibits the proliferation of prostate cancer cells in a time-	

and dose-dependent manner<sup>[2]</sup>.

Pargyline (0.5-2 mM; 24-48 hours; LNCaP-LN3 cells) treatment decreases S phase and increases the G1 phase in the cells in a dose-dependent manner<sup>[2]</sup>.

Pargyline (0.5 mM; 24 hours; LNCaP-LN3 cells) treatment increases the apoptotic cells<sup>[2]</sup>.

Pargyline (2 mM; 48 hours; LNCaP-LN3 cells) treatment induces an increase of cytochrome c and a decrease of caspase-3 in the cells, but does not lead to a change of BCL-2 expression<sup>[2]</sup>.

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

#### Cell Proliferation Assay<sup>[2]</sup>

Cell Line:	LNCaP-LN3 cells
Concentration:	0.5 mM, 1 mM, 1.5 mM or 2 mM
Incubation Time:	24 hours, 48 hours, 72 hours, 96 hours or 120 hours
Result:	Inhibited the proliferation of prostate cancer cells in a time- and dose-dependent manner.

#### Cell Cycle Analysis<sup>[2]</sup>

Cell Line:	LNCaP-LN3 cells
Concentration:	0.5 mM, 2 mM
Incubation Time:	24 hours, 48 hours
Result:	The S phase ratio of the cells was decreased, while their G1 phase ratio was increased.

#### Apoptosis Analysis<sup>[2]</sup>

Cell Line:	LNCaP-LN3 cells
Concentration:	0.5 mM
Incubation Time:	24 hours
Result:	Increased the apoptotic cells.

#### Western Blot Analysis<sup>[2]</sup>

Cell Line:	LNCaP-LN3 cells
Concentration:	2 mM
Incubation Time:	48 hours
Result:	Induced an increase of cytochrome c and a decrease of caspase-3.

#### In Vivo

Pargyline (10 mg/kg; iv) treatment induces a moderate (about 20 mm Hg) but persistent (48 h) decrease of systolic blood pressure in unanesthetized adult spontaneously hypertensive rats (SHR) but not in normotensive rats<sup>[3]</sup>.

A low dose of Pargyline (200 µg; icv) injected directly into the brain lowered arterial pressure. The hypotensive action of Pargyline in SHR appears to be the consequence of Norepinephrine accumulating at an inhibitory  $\alpha$ -adrenoceptor in brain<sup>[3]</sup>.

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

- Neural Regen Res. 2021;16:1660-70.
- J Parkinson Dis. 2020;10(2):523-542.

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## REFERENCES

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- [1]. C J Fowler, et al. The nature of the inhibition of rat liver monoamine oxidase types A and B by the acetylenic inhibitors clorgyline, l-deprenyl and pargyline. *Biochem Pharmacol.* 1982 Nov 15;31(22):3555-61.
- [2]. Hyung Tae Lee, et al. Effects of the monoamine oxidase inhibitors pargyline and tranlycypromine on cellular proliferation in human prostate cancer cells. *Oncol Rep.* 2013 Oct;30(4):1587-92.
- [3]. Fuentes JA, et al. Central mediation of the antihypertensive effect of pargyline in spontaneously hypertensive rats. *Eur J Pharmacol.* 1979 Jul 15;57(1):21-7.
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**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