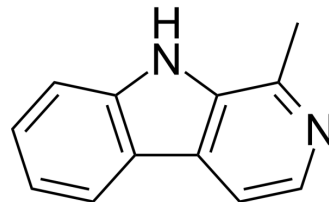


## Harmane

<b>Cat. No.:</b>	HY-101392		
<b>CAS No.:</b>	486-84-0		
<b>Molecular Formula:</b>	C <sub>12</sub> H <sub>10</sub> N <sub>2</sub>		
<b>Molecular Weight:</b>	182.22		
<b>Target:</b>	Imidazoline Receptor; Adrenergic Receptor; Monoamine Oxidase		
<b>Pathway:</b>	Neuronal Signaling; GPCR/G Protein		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 100 mg/mL (548.79 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM	5.4879 mL	27.4394 mL	54.8787 mL
		5 mM	1.0976 mL	5.4879 mL	10.9757 mL
10 mM		0.5488 mL	2.7439 mL	5.4879 mL	
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	<ol style="list-style-type: none"> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: ≥ 2.5 mg/mL (13.72 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (13.72 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.5 mg/mL (13.72 mM); Clear solution</li> </ol>				

### BIOLOGICAL ACTIVITY

<b>Description</b>	Harmane, a β-Carboline alkaloid (BCA), is a potent neurotoxin that causes severe action tremors and psychiatric manifestations. Harmane shows 1000-fold selectivity for I1-Imidazoline receptor (IC <sub>50</sub> =30 nM) over α2-adrenoceptor (IC <sub>50</sub> =18 μM). Harmane is also a potent and selective inhibitor of monoamine oxidase (MAO) (IC <sub>50</sub> s=0.5 and 5 μM for human MAO A/B, respectively). Harmane exhibits comutagenic effect <sup>[1][2][3][4]</sup> .			
<b>IC<sub>50</sub> &amp; Target</b>	I1-Imidazoline receptor 30 nM (IC <sub>50</sub> )	hMAO-A 0.5 μM (IC <sub>50</sub> )	MAO-B 5 μM (IC <sub>50</sub> )	α2-adrenergic receptor 18 μM (IC <sub>50</sub> )

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## CUSTOMER VALIDATION

- Front Mol Neurosci. 2022 Jun 27;15:925272.

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## REFERENCES

- [1]. Louis ED, et, al. Blood harmane concentrations and dietary protein consumption in essential tremor. *Neurology*. 2005 Aug 9;65(3):391-6.
- [2]. Musgrave IF, et, al. Harmane produces hypotension following microinjection into the RVLM: possible role of I(1)-imidazoline receptors. *Br J Pharmacol*. 2000 Mar;129(6):1057-9.
- [3]. Glover V, et, al.  $\beta$ -Carbolines as selective monoamine oxidase inhibitors: In vivo implications
- [4]. Umezawa K, et, al. Comutagenic effect of norharman and harman with 2-acetylaminofluorene derivatives. *Proc Natl Acad Sci U S A*. 1978 Feb;75(2):928-30.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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