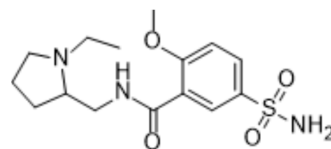


## Sulpiride

<b>Cat. No.:</b>	HY-B1019		
<b>CAS No.:</b>	15676-16-1		
<b>Molecular Formula:</b>	C <sub>15</sub> H <sub>23</sub> N <sub>3</sub> O <sub>4</sub> S		
<b>Molecular Weight:</b>	341.43		
<b>Target:</b>	Dopamine Receptor		
<b>Pathway:</b>	GPCR/G Protein; Neuronal Signaling		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 100 mg/mL (292.89 mM; Need ultrasonic)					
		Solvent Concentration	Mass	1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM		2.9289 mL	14.6443 mL	29.2886 mL
		5 mM		0.5858 mL	2.9289 mL	5.8577 mL
10 mM			0.2929 mL	1.4644 mL	2.9289 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 (7.32 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 (7.32 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.5 mg/mL (7.32 mM); Clear solution</li> </ol>					

### BIOLOGICAL ACTIVITY

<b>Description</b>	Sulpiride is an orally active dopamine D <sub>2</sub> /D <sub>3</sub> receptor antagonist. Sulpiride is an atypical antipsychotic agent of the benzamide family. Sulpiride can be used in research into anxiety, depression and breast cancer <sup>[1][2][3]</sup> .	
<b>IC<sub>50</sub> &amp; Target</b>	D <sub>2</sub> Receptor	D <sub>3</sub> Receptor
<b>In Vitro</b>	Dopamine, Alzheimer's, depression, Anxiety, Sprague-Dawley rats, NMRI mouse, Parkinson's disease, psychosis, MCF-7/Adr, Breast cancer, Dexamethasone, Drug combination MCF-7/Adr, Cancer stem-like cells (CSCs)	

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

#### In Vivo

Sulpiride (50 mg/kg; Subcutaneous injection; Single dose) can increase the dopamine level in Sprague-Dawley rats<sup>[2]</sup>.  
Sulpiride (5-20 mg/kg; Intraperitoneal injection; Single dose) improves memory, but induces anxiety in Parkinson's disease (PD) mice at a dose of 20 mg/kg<sup>[3]</sup>.

Sulpiride (25-100 mg/kg; Oral gavage; Once daily for 18 days) can enhance the anti-tumor activity of dexamethasone (DEX) (HY-14648) (1 and 8 mg/kg) in combination with dexamethasone in nu/nu nude mice bearing MCF-7/Adr xenografts. Without significant toxicity to organs<sup>[4]</sup>.

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

Animal Model:	Sprague-Dawley rats model <sup>[2]</sup>
Dosage:	50 mg/kg
Administration:	Subcutaneous injection (s.c.); Single dose.
Result:	Caused dopamine concentrations in the dialysates to roughly double.

Animal Model:	6-hydroxydopamine (6-OHDA) male NMRI mouse model of Parkinson's disease (PD) <sup>[3]</sup>
Dosage:	5 mg/kg, 10 mg/kg, 20 mg/kg
Administration:	Intraperitoneal injection (i.p.); Single dose
Result:	Decreased %OAT (open-arm time) but had no significant effect on %OAE (open-arm entries) and locomotor activity.

Animal Model:	Female nu/nu nude mouse models of breast cancer bearing MCF-7/Adr xenografts <sup>[4]</sup>
Dosage:	25 mg/kg, 50 mg/kg, 100 mg/kg
Administration:	Oral gavage (p.o.); Once daily for 18 days. In combination with DEX (1 and 10 mg/kg; p.o.; Once daily for 18 days)
Result:	When used in combination with DEX (1 mg/kg) at 50 mg/kg, enhanced the tumor suppression rate (14.4%). When combined with DEX (8 mg/kg) at 25, 50, and 100 mg/kg, enhanced the tumor suppression rate by 30.2%, 27.55%, and 14.97%, respectively.

#### CUSTOMER VALIDATION

- Nat Methods. 2023 Nov 30.
- Neuron. 2023 Mar 6;S0896-6273(23)00121-6.
- J Headache Pain. 2022 Aug 10;23(1):98.
- iScience. 2023 Mar.
- bioRxiv. 2023 Aug 25.

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## REFERENCES

- [1]. R  ther, E et al. Antidepressant action of sulpiride. Results of a placebo-controlled double-blind trial. *Pharmacopsychiatry* vol. 32,4 (1999): 127-35.
- [2]. Jaworski, J N et al. Effect of dopamine D2/D3 receptor antagonist sulpiride on amphetamine-induced changes in striatal extracellular dopamine. *European journal of pharmacology* vol. 418,3 (2001): 201-6.
- [3]. Zarrindast, Mohammad-Reza et al. Synergistic effect between quinpirole and L-NAME as well as sulpiride and L-arginine on the modulation of anxiety and memory processes in the 6-OHDA mouse model of Parkinson's disease: An isobologram analysis. *Neurobiology of learning and memory* vol. 186 (2021): 107538.
- [4]. Li, Jian et al. Dopamine D2 receptor antagonist sulpiride enhances dexamethasone responses in the treatment of drug-resistant and metastatic breast cancer. *Acta pharmacologica Sinica* vol. 38,9 (2017): 1282-1296.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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