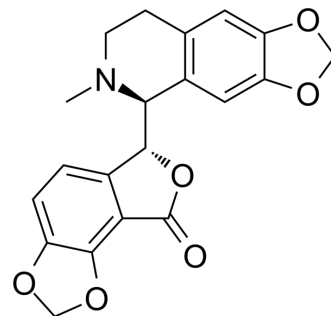


Bicuculline

Cat. No.:	HY-N0219
CAS No.:	485-49-4
Molecular Formula:	C ₂₀ H ₁₇ NO ₆
Molecular Weight:	367.35
Target:	GABA Receptor
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (136.11 mM; Need ultrasonic)
H₂O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.7222 mL	13.6110 mL	27.2220 mL
	5 mM	0.5444 mL	2.7222 mL	5.4444 mL
	10 mM	0.2722 mL	1.3611 mL	2.7222 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: ≥ 2.5 mg/mL (6.81 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (6.81 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (6.81 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Bicuculline ((+)-Bicuculline; d-Bicuculline), as a convulsant alkaloid, is a competitive neurotransmitter GABA_A receptor antagonist (IC₅₀=2 μM). Bicuculline also blocks Ca²⁺-activated potassium (SK) channels and subsequently blocks the slow afterhyperpolarization (slow AHP) [1][2][3].

IC₅₀ & Target

IC₅₀: 2 μM (GABA_A)^[3]

In Vitro

Bicuculline ((+)-Bicuculline; d-Bicuculline) (1 and 3 μM) attains the maximal response of GABA. Bicuculline appears to shift the dose-response curves of GABA in parallel to the right without decreasing GABA maximal response, suggesting that it is a

competitive antagonist at $\alpha_1\beta_2\gamma_2L$ GABA_A receptors^[3].

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

CUSTOMER VALIDATION

- Theranostics. 2022; 12(7):3057-3078.
- Cell Rep. 2021 Jul 20;36(3):109398.
- Biomedicines. 2021, 9(9), 1118.
- J Pain. 2019 May;20(5):577-591.
- Neural Regen Res. 2022 Jan;17(1):178-184.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Johnston GA. Advantages of an antagonist: bicuculline and other GABA antagonists. Br J Pharmacol. 2013;169(2):328-336.

[2]. Khawaled R, et al. Bicuculline block of small-conductance calcium-activated potassium channels. Pflugers Arch. 1999;438(3):314-321.

[3]. Huang SH, et al. Bilobalide, a sesquiterpene trilactone from Ginkgo biloba, is an antagonist at recombinant $\alpha_1\beta_2\gamma_2L$ GABA(A) receptors. Eur J Pharmacol. 2003;464(1):1-8.

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

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA