

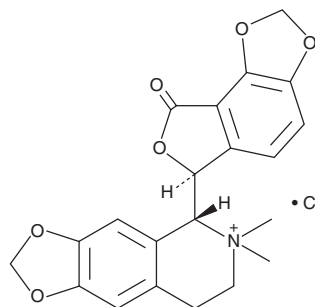
PRODUCT INFORMATION



(-)-Bicuculline methochloride

Item No. 27802

CAS Registry No.: 53552-05-9
Formal Name: (5R)-5-[(6S)-6,8-dihydro-8-oxofuro[3,4-e]-1,3-benzodioxol-6-yl]-5,6,7,8-tetrahydro-6,6-dimethyl-1,3-dioxolo[4,5-g]isoquinolinium, monochloride
MF: C₂₁H₂₀NO₆ • Cl
FW: 417.8
Purity: ≥98%
UV/Vis.: λ_{max}: 223, 296, 326 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

(-)-Bicuculline methochloride is supplied as a crystalline solid. A stock solution may be made by dissolving the (-)-bicuculline methochloride in the solvent of choice, which should be purged with an inert gas. (-)-Bicuculline methochloride is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of (-)-bicuculline methochloride in these solvents is approximately 30 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of (-)-bicuculline methochloride can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of (-)-bicuculline methochloride in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

(-)-Bicuculline methochloride is an enantiomer of the GABA antagonist (+)-bicuculline methochloride.¹ It increases the firing rate in rat cortical neurons similar to the (+) isomer but lacks GABA antagonist activity. (-)-Bicuculline methochloride inhibits sodium-independent GABA receptor binding with an IC₅₀ value of 500 μM, which is approximately 100-fold less potent than (+)-bicuculline methochloride, but there is no stereoselectivity for sodium-dependent GABA receptor binding.²

References

- Collins, J.F. and Hill, R.G. (+) and (-)-bicuculline methochloride as optical isomers of a GABA antagonist. *Nature* **249**(460), 845-847 (1974).
- Enna, S.J., Collins, J.F., and Snyder, S.H. Stereospecificity and structure-activity requirements of GABA receptor binding in rat brain. *Brain Res.* **124**(1), 185-190 (1977).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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