Certificate of Analysis

Product Name: **(-)-Bicuculline methiodide** **Catalog No.: 2503** **Batch No.: 11**

CAS Number: 40709-69-1

IUPAC Name: [*R*-(*R**,*S**)]-5-(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 iodide

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{21}H_{20}INO_6.½H_2O$

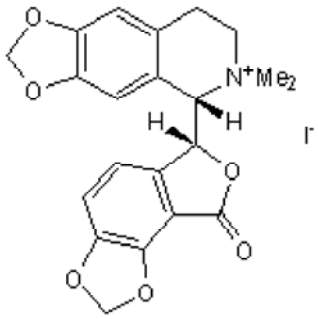
Batch Molecular Weight: 518.31

Physical Appearance: Yellow solid

Solubility: water to 20 mM
DMSO to 50 mM

Storage: Store at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.8% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	48.66	4.08	2.7
Found	48.45	4.1	2.74

Product Name: **(-)-Bicuculline methiodide** **Catalog No.: 2503** **Batch No.: 11**

CAS Number: 40709-69-1

IUPAC Name: [*R*-(*R**,*S**)]-5-(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 iodide

Description:

Methiodide form of classical $GABA_A$ receptor antagonist (+)-bicuculline. More water-soluble and stable. Non-GABA receptor-mediated actions reported, including actions on calcium-dependent potassium channels. Methobromide Salt and Methochloride Salt also available.

Physical and Chemical Properties:

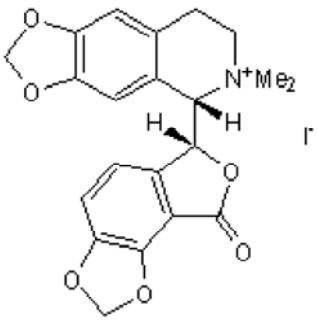
Batch Molecular Formula: $C_{21}H_{20}INO_6.½H_2O$

Batch Molecular Weight: 518.31

Physical Appearance: Yellow solid

Minimum Purity: ≥99%

Batch Molecular Structure:



Storage: Store at RT

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

Solubility & Usage Info:

water to 20 mM
DMSO to 50 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Chan *et al* (2006) Blockade of GABA(A) receptors in the ventromedial hypothalamus further stimulates glucagon and sympathoadrenal but not the hypothalamo-pituitary-adrenal response to hypoglycemia. Diabetes ***55*** 1080. PMID: 16567532.

Kurt *et al* (2006) Differential effects of iontophoretic in vivo application of the $GABA_A$-antagonists bicuculline and gabazine in sensory cortex. Hear.Res. ***212*** 224. PMID: 16442250.

Seutin and Johnson (1999) Recent advances in the pharmacology of quaternary salts of bicuculline. TiPS ***20*** 268. PMID: 10390643.

Olsen *et al* (1976) Studies on the neuropharmacological activity of bicuculline and related compounds. Brain Res. ***102*** 283. PMID: 1247886.