

Certificate of Analysis

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Product Name: Sinomenine hydrochloride

Catalog No.: 3848

Batch No.: 2

CAS Number: 6080-33-7

EC Number: 204-094-6

IUPAC Name: 9 α ,13 α ,14 α -7,8-Didehydro-4-hydroxy-3,7-dimethoxy-17-methylmorphinan-6-one hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₉H₂₃NO₄.HCl.2H₂O

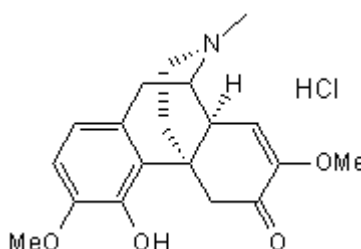
Batch Molecular Weight: 401.88

Physical Appearance: White solid

Solubility: water to 100 mM

Storage: Store at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.8% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Optical Rotation: [α]_D = -81.4 (Concentration = 1, Solvent = Ethanol)

Microanalysis:

Carbon Hydrogen Nitrogen

Theoretical 56.79 7.02 3.49

Found 56.88 6.76 3.49

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

Product Information

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Description:

Natural anti-inflammatory morphinan analog. Causes degranulation of mast cells in mammalian tissues to release histamine and suppresses production of proinflammatory cytokines. Also displays antinociceptive activity, possibly through activation of the μ -opioid receptor. Stimulates short-term renewal of human embryonic stem cells (ESCs) in vitro.

Physical and Chemical Properties:

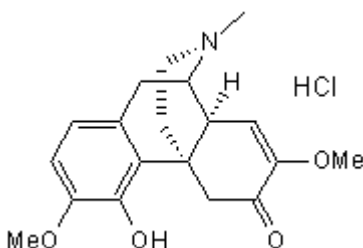
Batch Molecular Formula: C₁₉H₂₃NO₄.HCl.2H₂O

Batch Molecular Weight: 401.88

Physical Appearance: White solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Store at +4°C

Solubility & Usage Info:

water to 100 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:

Yamasaki (1976) Pharmacology of sinomenine, an anti-rheumatic alkaloid from *Sinomenium acutum*. *Acta Med. Okayama* **30** 1. PMID: 61710.

Qian et al (2007) Sinomenine, a natural dextrorotatory morphinan analog, is anti-inflammatory and neuroprotective through inhibition of microglial NADPH oxidase. *J. Neuroinflamm.* **4** 23.

Desbordes et al (2008) High-throughput screening assay for the identification of compounds regulating self-renewal and differentiation in human embryonic stem cells. *Cell Stem Cell* **2** 602. PMID: 18522853.

Wang et al (2008) Activation of opioid μ -receptor by sinomenine in cell and mice. *Neurosci. Lett.* **443** 209. PMID: 18692550.

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