

# Certificate of Analysis

**Product Name:** Naltrindole hydrochloride

**Catalog No.:** 0740

**Batch No.:** 14

CAS Number: 111469-81-9

IUPAC Name: 17-(Cyclopropylmethyl)-6,7-dehydro-4,5 $\alpha$ -epoxy-3,14-dihydroxy-6,7-2',3'-indolomorphinan hydrochloride

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>26</sub>H<sub>26</sub>N<sub>2</sub>O<sub>3</sub>·HCl·1 $\frac{3}{4}$ H<sub>2</sub>O

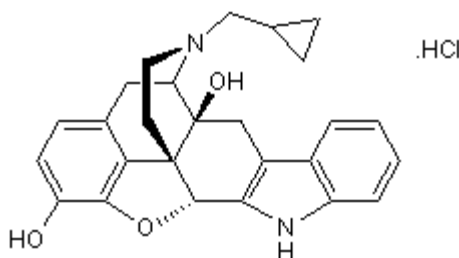
**Batch Molecular Weight:** 482.48

**Physical Appearance:** Beige solid

**Solubility:**  
ethanol to 10 mM  
water to 25 mM  
DMSO to 100 mM

**Storage:** Store at RT

**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**TLC:** R<sub>f</sub> = 0.4 (Chloroform:Methanol:Ammonia soln. [10:1:0.1])

**HPLC:** Shows 100% purity

**<sup>1</sup>H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	64.72	6.37	5.81
Found	64.78	6.4	5.86

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**Description:**

Highly selective non-peptide  $\delta$  opioid antagonist, showing 223- and 346-fold greater activity at  $\delta$  than at  $\mu$  and  $\kappa$  opioid receptors.

**Physical and Chemical Properties:**

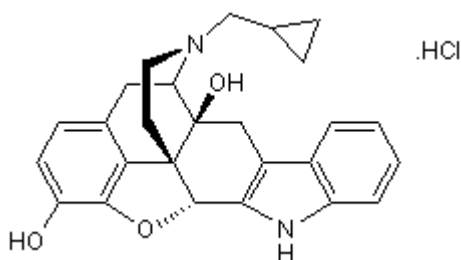
Batch Molecular Formula: C<sub>26</sub>H<sub>26</sub>N<sub>2</sub>O<sub>3</sub>.HCl.1 $\frac{3}{4}$ H<sub>2</sub>O

Batch Molecular Weight: 482.48

Physical Appearance: Beige solid

**Minimum Purity:** >99%

**Batch Molecular Structure:**



**Storage:** Store at RT

**Solubility & Usage Info:**

ethanol to 10 mM

water to 25 mM

DMSO 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:**

**Portoghese *et al*** (1990) Design of peptidomimetic  $\delta$  opioid receptor antagonists using the message-address concept. *J.Med.Chem.* **33** 1714. PMID: 2160538.

**Ossipov *et al*** (1994) Naltrindole, an opioid  $\delta$  antagonist, blocks the enhancement of morphine-antinociception induced by a CCK<sub>B</sub> antagonist in the rat. *Neurosci. Lett.* **181** 9. PMID: 7898778.

**Shippenberg and Heidbreder** (1995) The  $\delta$ -opioid receptor antagonist naltrindole prevents sensitization to the conditioned rewarding effects of cocaine. *Eur.J.Pharmacol.* **280** 55. PMID: 7498254.

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