

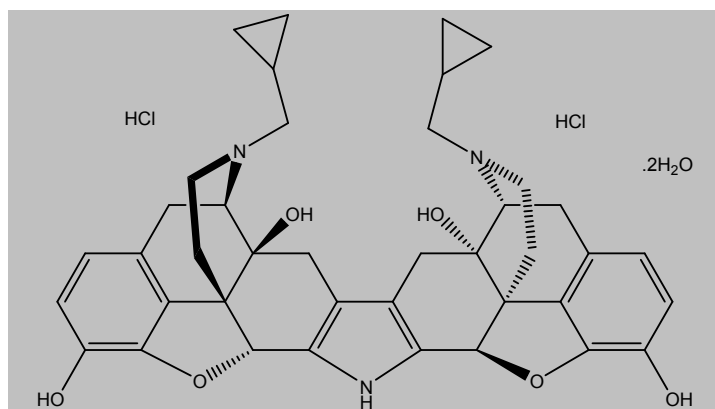
**Certificate Of Analysis**  
**Quality Control Testing and Research Application**

COA Preparation Date: 03/11/2014  
 COA Revision Date: 03/11/2017

**Product:** *nor*-Binaltorphimine dihydrochloride  
**Cat. No.:** BN0642  
**Batch No.:** 0642BN/01  
**Chemical Name:** 17,17'-(Dicyclopropylmethyl)-6,6',7,7'-6,6'-imino- 7,7'-binorphinan-3,4',14,14'-tetrol dihydrochloride; *nor*-BNI; Norbinaltorphimine

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>40</sub>H<sub>43</sub>N<sub>3</sub>O<sub>6</sub> .2HCl .2H<sub>2</sub>O  
**Batch Molecular Weight:** 770.75  
**CAS No.:** [105618-26-6]  
**Physical Appearance:** White solid  
**Melting Point:**  
**Solubility:** Soluble to 25 mM in water  
**Storage:** RT  
**Batch Molecular Structure:**



**Product Description:** **Selective κ-opioid receptor antagonist (K<sub>i</sub> values are 0.027, 2.2 and 65 nM at human cloned κ, μ and δ opioid receptors).**

**References:** 1. Raynor et al. (1993) Mol Pharmacol 45:330; 2. Portoghese et al. (1994) J Med Chem 37:1495; 3. Blake et al. (1997) J Neurochem 68:1846; 4. Feng et al. (1997) J Pharmacol Exp Ther 283:932

- CAUTION - Not fully tested. For Research use only. Not for human use. -



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**BN0642** *nor*-Binaltorphimine dihydrochloride

**2. ANALYTICAL DATA**

HPLC: corresponds to the reference

MS: corresponds to the reference

Tests: HPLC Assay: > 99% (complies).

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