

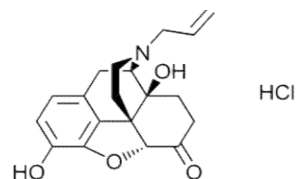
# Certificate of Analysis



## Product Identification

**Catalog number** HB2451  
**Compound name** Naloxone hydrochloride  
**Chemical name** (5 $\alpha$ )-4,5-Epoxy-3,14-dihydro-17-(2-propenyl)morphinan-6-one hydrochloride  
**Batch number** E0554-1-1  
**Batch molecular formula** C<sub>19</sub>H<sub>21</sub>NO<sub>4</sub>·HCl·2H<sub>2</sub>O  
**Batch molecular weight** 399.87

## Chemical Structure



## Method

## QC requirement

## QC Result

<b>HPLC</b>	Reverse Phase HPLC shows >98% purity	Meets specification: 100% by HPLC
<b>NMR</b>	1H NMR in D <sub>2</sub> O at 400 MHz consistent with structure	Meets specification
<b>Mass spectrum</b>	Electrospray positive analysis consistent with structure	Meets specification
<b>Microanalysis</b>	Elemental analysis is within 0.4% for the batch molecular formula	Meets specification
<b>Physical appearance</b>	White to pale off-white solid	Meets specification: White solid
<b>Solubility</b>	Soluble in water (100 mM)	Meets specification

## Biological validation

**Produced by** Richard Patterson

Signature

**Passed by** Huw Davies

Signature

Date

13-02-17

This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.