

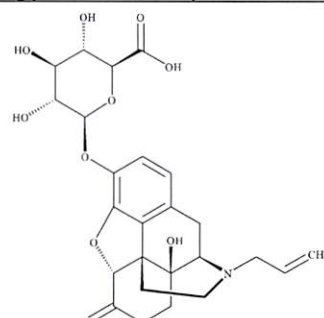
## Certificate of Analysis

Certificate No.: 20251212507



Date: December 12, 2025

Retest date: December 4, 2028

<b>Compound Name:</b> Naloxone 3- <i>beta</i> -D-Glucuronide	
<b>Synonyms:</b>	(2S,3S,4S,5R,6S)-3,4,5-trihydroxy-6-[(1S,5R,13R,17S)-17-hydroxy-14-oxo-4-(prop-2-enyl)-12-oxa-4-azapentacyclo[9.6.1.0 <sup>1,13</sup> .0 <sup>5,17</sup> .0 <sup>7,18</sup> ]octadeca-7(18),8,10-trien-10-yloxy]tetrahydro-2 <i>H</i> -pyran-2-carboxylic acid
<b>TLC Catalogue Number:</b>	N-2134
<b>CAS Number:</b>	22135-79-1
<b>Alternate CAS Number:</b>	N/A
<b>Molecular Weight:</b>	503.50
<b>Molecular Formula:</b>	C <sub>25</sub> H <sub>29</sub> NO <sub>10</sub>
<b>Source:</b>	TLC Pharmaceutical Standards
<b>Source Lot No.:</b>	C0222-099A4
<b>Storage Conditions:</b>	Hygroscopic, store at 2-8 °C
<b>Solubility:</b>	Water, DMSO



Test Description	Specifications	Results
<b>Visual Description</b>	Off-white solid	<b>Conforms</b>
<b>Identification</b>		
IR	Conforms to structure	<b>Conforms</b>
MS	Conforms to structure	<b>Conforms</b>
<sup>1</sup> H NMR	Conforms to structure	<b>Conforms</b>
<b>Purity (HPLC)</b>	Not less than 95.0%	<b>98.0%</b>
<b>Impurity (HPLC)</b>	RT 3.41, 0.46%; RT 4.61, 0.29%; RT 5.12, 0.29%	
<b>Water Content (KF)</b>	N/A	<b>3.4%</b>
<b>Residual Solvents (NMR)</b>	No residual solvent	
<b>Assay (%)</b>	Not less than 90.0%	<b>94.7%</b>
<b>Recommendation:</b>	<b>Release.</b>	

Name	Department	Signature	Date
Reviewed and approved by:	Quality Control		12/12/2025
Approved by:	Quality Assurance		12/12/2025

**Attachments:** Peak Attribution Table, Assay Calculation, HPLC, IR, MS and NMR spectra.