



## Certificate of Analysis

<b>Axon Catalogue ID:</b>	1213	<b>Batch Number:</b>	1	
<b>Product Name:</b>	β-Funaltrexamine hydrochloride			
<b>Alternative Name(s):</b>	β-FNA hydrochloride			
<b>IUPAC Name:</b>	(2E)-4-[[[(5a,6b)-17-(Cyclopropylmethyl)-4,5-epoxy-3,14-dihydroxymorphinan-6-yl]amino]-4-oxo-2-butenic acid methyl ester hydrochloride			
<b>Structure:</b>	HCl	<b>Amount:</b>		
<b>CAS number:</b>	72786-10-8			
<b>Batch Molecular Formula:</b>	C25H30N2O6.HCl.1.25H2O	<b>Batch MW:</b>	513.50	
<b>Appearance:</b>	Off-white solid	<b>Observed mp:</b>	>226 °C (decomp)	
<b>TLC (R<sub>f</sub>):</b>	0.6	DCM/MeOH (9:1)		
<b>Chemical Purity:</b>	98.5%			
<b>Optical Purity (ee):</b>	Optically pure			
<b><sup>1</sup>H-NMR (300 MHz):</b>	Analytical data confirm chemical structure			
<b>Mass Spec:</b>	Analytical data confirm chemical structure			
<b>Microanalysis:</b>	Calculated: C 58.48 , H 6.58 , N 5.46	Found: C 58.19 , H 6.40 , N 5.56		
<b>Storage Conditions:</b>	Store at +4 °C			
<b>Solubility Data:</b>	<b>Solvent</b>	<b>Solubility (mg/ml)</b>	<b>Solubility (mM)</b>	<b>Remarks</b>
	Water	4.2	8.2	Requires warming/ultrasone
	0.1N NaOH (aq)			Not Tested
	0.1N HCl (aq)			Not Tested
	DMSO	21.0	40.9	Requires warming/ultrasone
	EtOH			Not Tested
<b>Remarks:</b>				
<b>QC Date:</b>	29-04-2015			

The purity of Axon Ligands is confirmed by HPLC, MS, NMR and/or microanalysis. Analytical data are available upon request. Request can be submitted by e-mail to [info@axonmedchem.com](mailto:info@axonmedchem.com) indicating Catalogue ID and Batch number.

**Caution: Not fully tested. For research purposes only**