



Frontier BioPharm

LLC

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CERTIFICATE OF ANALYSIS

3-Hydroxylicocaine HCl

0.103 mg/mL (free base concentration)

Product Number: H-2120
Lot No.: 10280060

Chemical Identity: Chemical Name: 3-Hydroxylicocaine
Molecular weight: Hydrochloride salt: 286.80
Free Base: 250.34

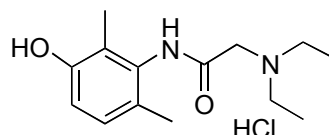
Solvent: Methanol
Volume per Ampule: 1 mL
Storage Condition: Protect from light, freeze
Chemical Purity: >99.9%

Elemental Analysis	Calc. $C_{14}H_{23}ClN_2O_2$	C% 58.63, H% 8.08, N% 9.77, Cl% 12.36
	Found	C% 58.75, H% 7.98, N% 9.70, Cl% 12.24

Loss on Drying (TGA) <0.1%
Micro Ash <0.1% residue on ignition
Isotopic Purity: N/A

Date of Analysis (solution): March 26, 2013
Expiration/Re-Analysis Date: March 26, 2015

Structure:



<u>Purity (corrected)</u>	<u>Prepared Concentration*</u>	<u>Analyzed Concentration**</u>
>99.9%	0.103 mg/mL (± 0.003 mg/mL)	0.104 mg/mL (± 0.003 mg/mL)

Concentrations are reported as the free base.

* Masses are determined using balances calibrated with NIST traceable weights. The prepared concentration is corrected for residual solvents, chromatographic purity, the salt, and is expressed as the free base concentration.

** Concentration values are determined by independent calibration curves. It is suggested that the prepared concentration value be used.

Approved: _____

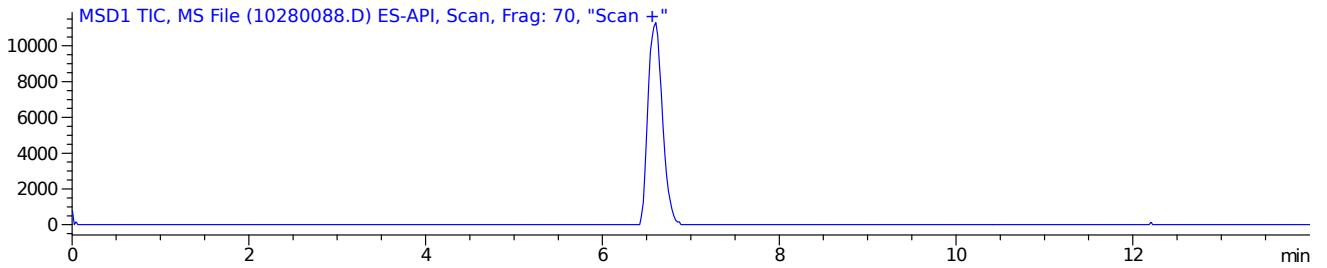
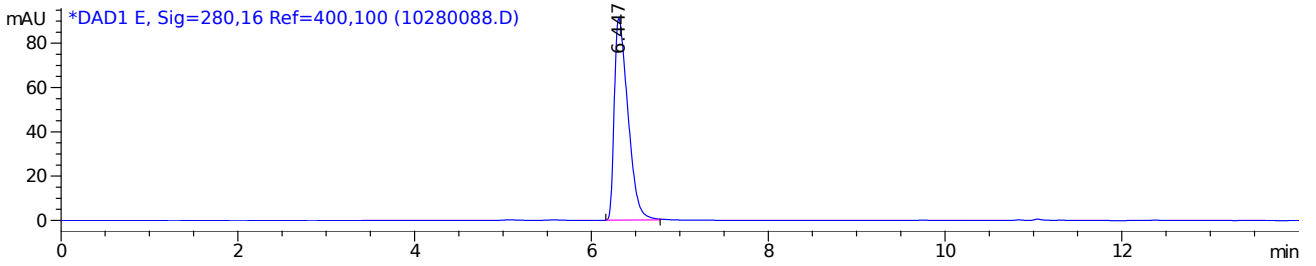
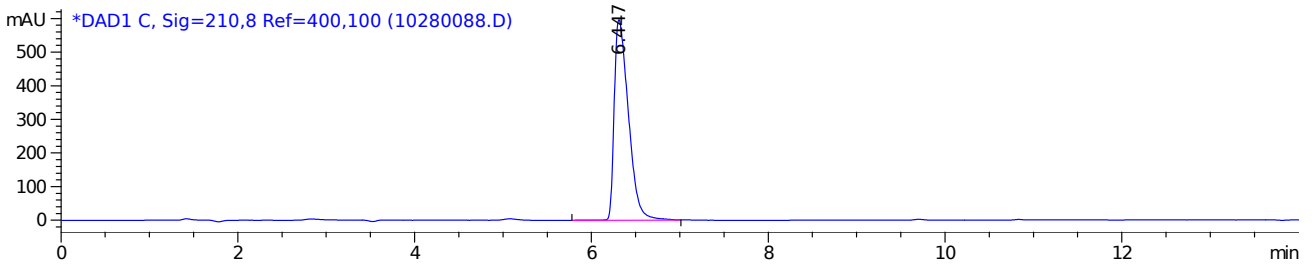
Rodney L. Eisenberg, Ph.D.
Director

03-26-2013

Date

Spectral and Physical Data

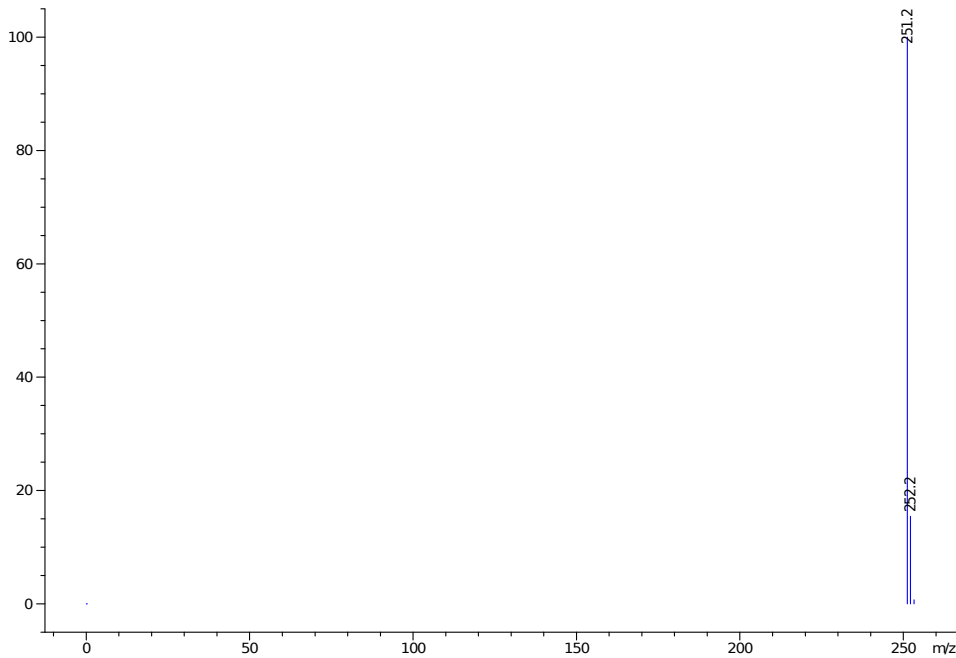
LC/UV and MS Data



Signal 1: DAD1 A, Sig=210,8 Ref=400,100

Peak #	RetTime [min]	Type	Width [min]	Area [mAU*s]	Height [mAU]	Area %
1	6.447	VB	0.2684	1.23034e4	716.33148	100.000

Totals : 1.23034e4 716.33148



¹H-NMR (DMSO-*d*₆, 400 MHz)

