



Frontier BioPharm LLC

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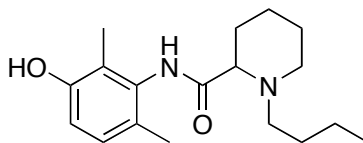
CERTIFICATE OF ANALYSIS

3-Hydroxybupivacaine 0.103 mg/mL in methanol

Product Number: BU-2950
Lot No.: 10210074

Chemical Identity: Chemical Name: 3-Hydroxybupivacaine
Solvent: Methanol
Volume per Ampule: 1 mL
Storage Condition: Protect from light, refrigerate or freeze
Chemical Purity: 97.8% corrected purity

Loss on Drying (TGA): <0.2%
Micro Ash: <0.2% residue on ignition
Molecular Formula: C₁₈H₂₈N₂O₂
Molecular Weight: 304.43
Isotopic Purity: N/A
Date of Analysis (solution): June 05, 2012
Expiration/Re-Analysis Date: June 05, 2014



<u>Purity (corrected)</u>	<u>Prepared Concentration*</u>	<u>Analyzed Concentration**</u>
97.8%	0.103 mg/mL (±0.003 mg/mL)	0.102 mg/mL (± 0.003 mg/mL)

Concentrations are reported as the free base.

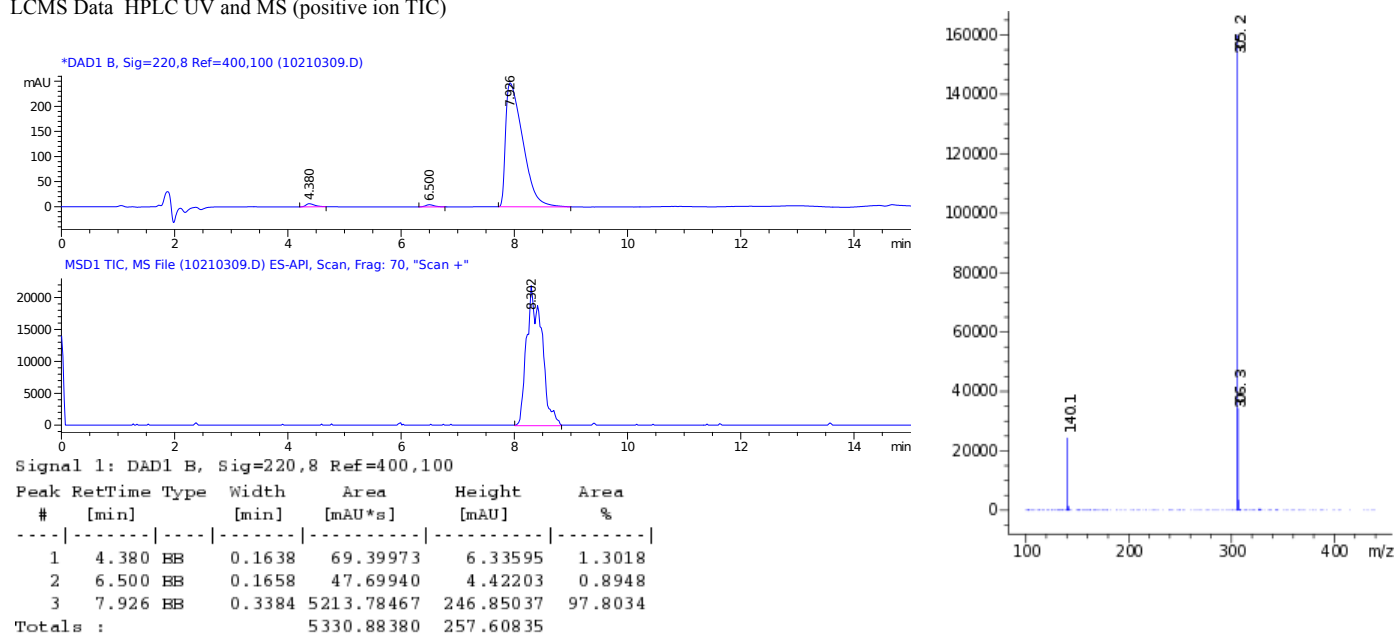
* Masses are determined using balances calibrated with NIST traceable weights. The prepared concentration is corrected for residual solvents, chromatographic purity, and any salt counterion mass, and is expressed as the free base concentration.

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

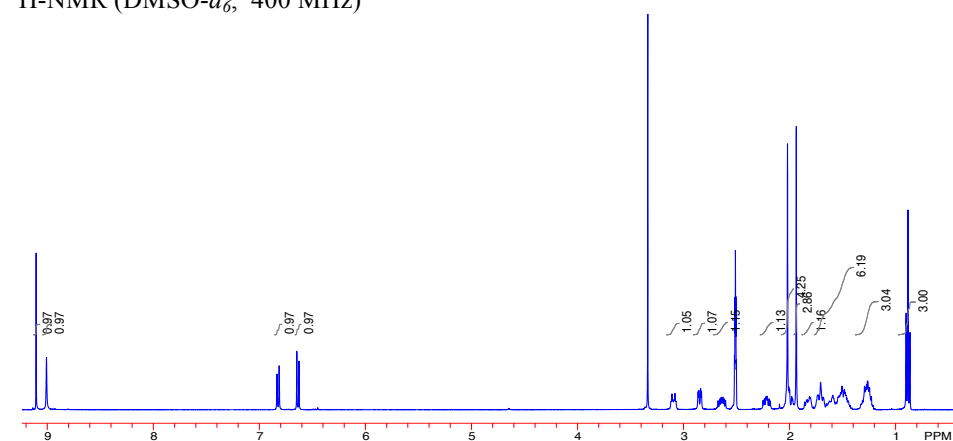
Approved: Rodney L. Eisenberg, Ph.D.
Director

06-05-2012
Date

Spectral and Physical Data
LCMS Data HPLC UV and MS (positive ion TIC)



¹H-NMR (DMSO-d₆, 400 MHz)



¹³C NMR (DMSO-d₆, 100 MHz)

