WORK INSTRUCTIONS

3.10.3 Free (Unbound) Codeine and Morphine in Blood UCT 200 mg CLEAN SCREEN® DAU Extraction Column

QUALITY ASSURANCE MATERIAL

Working Reference Material Solutions

Corresponding calibrator and control reference materials must be obtained from different vendors, or be from different lot numbers if suitable second vendors are not available. Working reference material solutions are stable for 6 months when stored under refrigeration.

10ng/mL

Add 100.0µL each 1mg/mL Codeine and Morphine Stock Solution to ≥9mL Methanol in a 10mL volumetric class A flask. QS to 10mL.

1ng/mL

Add 1.0mL 10ng/μL working solution to ≅5mL Methanol in \$10mL volumetric class A flask. QS to 10mL.

Calibrator Preparation

Add the volume of working Codeine-Morphine mixed RM to appropriate tube as indicated below.

| Level | ng/mL | Working Solution | Volume to add (μL) |
|-------|-------|------------------|-----------------------|
| 1 | 25 | 1 | 25 |
| 2 | 5000 | 1 | 50 |
| 3 | 100 | 1 | 100 |
| 4 | 250 | 10 | 25 |
| 5 | 500 | 10 | 50 |
| 6 | 1000 | 10 | 100 |

Spiked Positive Control Preparation

Add the volume of working Codeine-Morphine mixed RM to appropriate tube as indicated:

| ng/mL | Working Solution (ng/μL) | Volume to add (μL) |
|-------|-----------------------------|-----------------------|
| 75 | 1 | 75 |
| 750 | 10 | 75 |

1.0ng/µL Working Internal Standard Solution

Add $10.0\mu L$ each 1mg/mL ($1000ng/\mu L$) or $100\mu L$ each $100\mu g/mL$ ($0.1\mu g/\mu L$) Codeine-D3 or Codeine-D6 and Morphine-D3 or Morphine-D6 Stock Solution to $\cong 9mL$ Methanol in a 10mL volumetric class A flask. QS to 10mL. Solution is stable for 6 months when stored under refrigeration.

Commercial Blood Positive Control

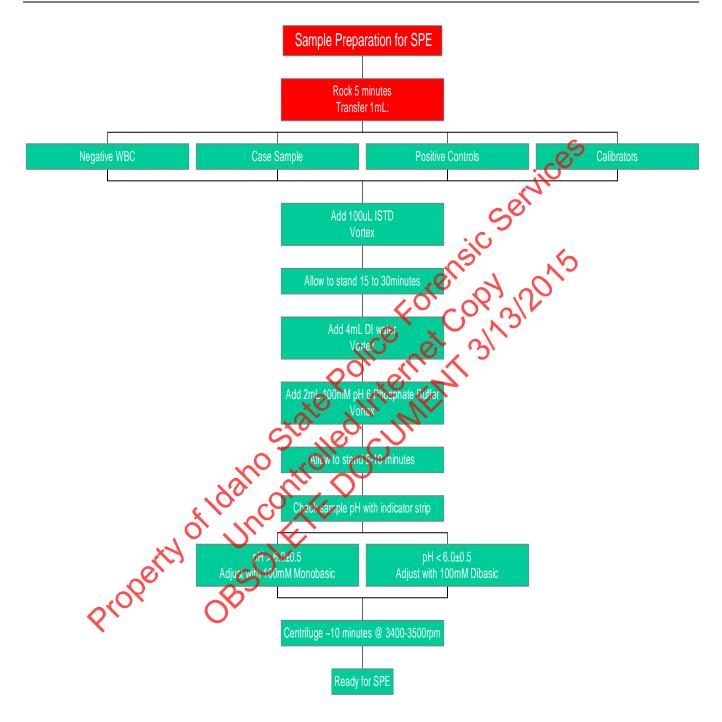
Commercial controls must contain Codeine and Morphine each at a target concentration of 100ng/mL. Refer to package insert for verified value and expected range.

WORK INSTRUCTIONS

Rev. 2 Issued: 1/7/2013 Issuing Authority: Quality Manager

Toxicology Analytical Methods

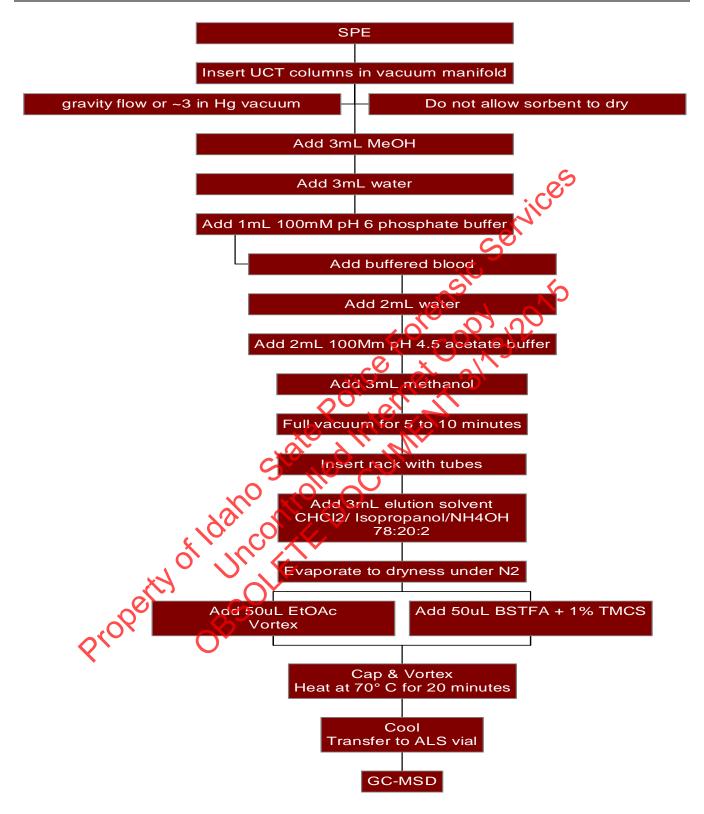
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Revision History

| Revision No. | Issue Date | Revision/Comments |
|--------------|------------|--|
| 0 | 06-29-2007 | Original Issue |
| 1 | 03/07/2011 | Clarified schemes, updated language |
| 2 | 01/07/2013 | Updated flow chart to reflect charges in method. |

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