Houston Forensic Science Center

INTEROFFICE MEMO

To: Toxicology Analytical Manual v3.7

From: Sara Dempsey, Ph.D., Supervisor - Toxicology

Sara Dempsey
Digitally signed by Sara Dempsey
Date: 2021.12.22 12:26:57 -06'00'

cc: Dayong Lee, Ph.D., F-ABFT – Toxicology Manager

Dayong Lee
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Date: 2021.12.22 12:34:16 -06'00'

Quality Division

Date: December 22, 2021

Re: Updates to LC-MS/MS drug confirmation operation

This memo is to document changes to the LC-MS/MS drug confirmation operation.

1. **Change in the reconstitution solvent volume for amphetamines blood confirmation (AMP) analysis**
   The LC-QQQs' sensitivity increased after instrument cleaning for the annual performance maintenance on November 1, 2021 and November 29, 2021 for LCMS-2 and LCMS-1, respectively, which likely led to detector saturation, causing the higher end of the calibration curve for methamphetamine to have decreased responses. This subsequently caused multiple (n = 4 by 3 different analysts) calibration curves fail to meet acceptance criteria. To decrease the overall detector response to improve consistency of the calibration curve performance, the reconstitution volume will be changed from 100 µL (Analytical Manual v3.7, section 18.8.11) to 200 µL of 90:10 LC-MS grade water: methanol. The verification of this change was performed on 12/21/2021. The Analytical Manual v3.8 will reflect this change.
2. **Removal of an ion transition for clonazepam in UTAK Control**
   Due to the repeated ion ratio failure (n = 7 over 3 runs by 2 different analysts) of the 316.1 -> 241.0 transition for clonazepam in the UTAK lot C5022 (see batches BNZ_20211202B_CD, BNZ_20211209B_CD, and BNZ_20211214B_SD), this transition will not be used for evaluation of clonazepam in UTAK controls only. The transition will still be used to evaluate calibrators, the in-house low and high quality controls, and case samples. The use of the transition for clonazepam in the UTAK control will be re-evaluated when a new lot of Utak is available.