# PURPOSE:

This document provides instructions for the preparation, loading, and calibrating of the Siemens Syva Emit tox Serum Tricyclic Antidepressants Assay on the Beckman Coulter Au680 Chemistry analyzer.

# SCOPE:

This document applies to UPMC Hanover Laboratory.

**REAGENTS:**

* Siemens Syva Emit tox Serum Tricyclic Antidepressants Assay test kit. Catalog Number 7C209UL. Distributed by Beckman Coulter. Kit contains:
  + Reagent A, 3 mL lyophilized
  + Reagent B, 3 mL lyophilized
  + Buffer Concentrate, 13.3 mL
* Siemens Syva Emit Tox Serum Tricyclic Antidepressants Calibrator/Controls kit. Catalog Number 7C219UL. Distributed by Beckman Coulter.

**SUPPLIES:**

* 250 mL Pyrex Erlenmeyer flask.
* 3 mL, 4 mL, and 10 mL volumetric pipets.
* 2 -30 mL Beckman Coulter reagent boats.

**PROCEDURE:**

PREPARATION OF STOCK REAGENT BUFFER.

For best results, prepare the stock buffer a day before intended use.

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| **Step** | **Action** |
| 1 | Remove the bottle of Buffer Concentrate from the Assay test kit. |
| 2 | Empty the contents of the Buffer Concentrate bottle into a clean, dry 250 mL Pyrex Erlenmeyer flask. |
| 3 | Rinse the Buffer Concentrate bottle with 5-6 mL of deionized water, adding the rinse water to the Erlenmeyer flask. Repeat times two. |
| 4 | Carefully add additional deionized water to the 200 mL on the flask. |
| 5 | Label the flask with the contents, the preparation date, and the expiration date. Expiration of prepared buffer is 90 days at room temperature. |
| 6 | Cover the mouth of the Erlenmeyer flask with several layers of parafilm when not in use. |
| 7 | Store prepared buffer at room temperature at the Chemistry prep bench. |

PREPARATION OF REAGENT.

For best results, prepare reagent a day before intended use. If this is not possible, freshly prepared reagent must be allowed to equilibrate for two hours in the analyzer’s refrigerated reagent compartment.

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| **Step** | **Action** |
| 1 | Remove the Reagent A, Reagent B, and TCA calibrator (if needed) bottles from the refrigerator and allow to stand at room temperature for 15 minutes. |
| 2 | Using clean volumetric pipets, reconstitute the reagents with 3 mL of deionized water. |
| 3 | Recap and allow the reconstituted reagent/calibrator vials to sit for 15 minutes at room temperature to reconstitute. |
| 4 | Swirl each reagent vial gently to mix. |
| 5 | Label two clean Beckman Coulter 30 mL reagent boats for the prepared reagent “TCA Rgt A” and “TCA Rgt B”, respectively. |
| 6 | Label the two reagents with the reagent lot number and a unique sequence number:   * The lot number and sequence number make up an eight-digit code in the format XXXX-XXXX. * The first 4 numbers represent the reagent lot code (example: “K2”) preceded by 2 zeros (ie “00K2”) * The last 4 numbers are derived from the current date in a MMDD format. (Example: June 28 = “0628”).   Using the above examples, the assigned identifier for the reagents would be  “00K2-0628” |
| 7 | Using a volumetric pipet, add 10 mL of deionized water to the Reagent A reagent boat. |
| 8 | Carefully add the contents of the reconstituted Reagent A vial to the Reagent A reagent boat. |
| 9 | Rinse the Reagent A vial by carefully pouring a small amount of the Reagent A / Buffer mixture back and forth from the reagent boat to the reagent vial. |
| 10 | Using a 10 mL and a 4 mL volumetric pipet, add an additional 14 mL of Buffer to the Reagent A reagent boat.  NOTE: The final preparation is a 1:9 dilution of the reconstituted Reagent A;  3 mL of Reagent A to 24 mL of Reagent Buffer. |
| 11 | Repeat steps 7 through 10, above to prepare Reagent B. |
| 12 | If preparing reagent for the subsequent day, cap the reagent vials and store in the refrigerator over night. |

LOADING THE REAGENT ON THE ANALYZER.

Having no identifying barcode numbers, the prepared reagents are loaded into pre-assigned positions in the analyzer reagent compartments.

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| **Step** | **Action** |
| 1 | Verify that the analyzer is in STANDBY mode. |
| 2 | Lift the analyzer cover and remove the lids of the R1 and R2 reagent carousels. |
| 3 | Identify the labeled, pre-assigned positions for TCA in each wheel. |
| 4 | Remove any currently-loaded reagent boats and discard according to procedure. |
| 5 | Gently swirl to mix the Reagent A and Reagent B boats to be loaded. |
| 6 | Uncap the reagent boats and load Reagent A in the labeled space in the R1 carousel. |
| 7 | Load Reagent B in the labeled space in the R2 carousel. |
| 8 | On the analyzer display, navigate to the REAGENT MANAGEMENT screen and access the DETAIL tab. |
| 9 | Locate the TCA reagent. |
| 10 | Click on the R1 TCA reagent to highlight. |
| 11 | Click the EDIT tab on the lower left hand of the screen. |
| 12 | In the pop-up box, enter the previously-assigned Lot/Sequence number and save. |
| 13 | Repeat steps 10 through 12 for the R2 TCA reagent. |
| 14 | Highlight the R1 reagent again and click on INITIALIZE ONBOARD STABILITY.  This sets the countdown clock for reagent on-board stability. |
| 15 | Repeat step 14 for the R2 reagent. |
| 16 | Perform a REAGENT CHECK. If checking the TCA reagent only, use the CHECK SPECIFIED POSITIONS option. |
| 17 | Calibrate and QC the reagent according to standard procedure. |

**REFERENCES:**

* Siemens Syva Emit tox Serum Tricyclic Antidepressants Assay. Package Insert 7C244UL.2DS\_US\_E, Feb 2016.
* Siemens Syva Emit tox Serum Tricyclic Antidepressants Calibrator/Controls. Package Insert 7C254UL.2DS\_C, May 2015.
* Siemens Cyva Emit tox Serum Tricyclic Antidepressants Application Sheet, Beckman Coulter AU series. Document mds:912q-US, 05-12-2017.
* AU680 Chemistry Analyzer Instructions for Use**,** Beckman Coulter, B04779AB, June 2015.

**Document History**

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| Date of Origination and Document Control Number | Sept 3, 2019  CHEM 6005 | Formalized final procedure. |
| Prepared by: John R Samuel, MT(ASCP) |
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