



# Audit™ MicroCV™ Therapeutic Drug (TDM) Linearity Set

Cat. No. **K707M-5**  
Contents 5 x 5 mL

Lot No. 03343A, 03343B, 03343C,  
03343D, 03343E

Expires 04/21/06

For In Vitro Diagnostic Use Only.

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## INTENDED USE

Audit™ MicroCV™ Therapeutic Drug (TDM) Linearity Set is unassayed calibration verification material consisting of human based serum. It is intended to simulate human patient serum samples for the purpose of verifying and validating the Analytical Measurement Range (AMR) for non-waived Therapeutic Drug (TDM) testing methods.

## SUMMARY AND PRINCIPLE

As defined in the Clinical Laboratory Improvement Amendments of 1988 (CLIA) by the Centers for Medicare and Medicaid Services (CMS) and the Centers for Disease Control (CDC), each laboratory must revalidate each test method's AMR at least every six months as well as following changes in lots of analytically critical reagents or major system components<sup>1</sup>. Good laboratory practices require that stable reference materials be used to verify the accuracy and precision of testing methods and techniques. Audit™ MicroCV™ Therapeutic Drug (TDM) Linearity Set may be used as one would use human serum to verify and validate the AMR.

## REAGENTS

Audit™ MicroCV™ Therapeutic Drug (TDM) Linearity Set is in vitro diagnostic calibration verification material composed of a human serum matrix.

## WARNINGS AND PRECAUTIONS

This product contains less than 0.1% sodium azide that may react with lead and copper plumbing to form potentially explosive metal azides. On disposal, flush with a large volume of water to prevent azide build-up.

Audit™ MicroCV™ Therapeutic Drug (TDM) Linearity Set is intended solely for in vitro diagnostic use for the purpose described on the labeling. Audit™ MicroControls, Inc. shall not be liable for any unclaimed damages arising from any other usage.

## STORAGE AND STABILITY

Audit™ MicroCV™ Therapeutic Drug (TDM) Linearity Set is stored at 2-8°C and will remain stable in the unopened vial for twenty-four months from the date of manufacture. After opening, the contents should be reconstituted immediately and used according to the instrument manufacturer's instructions.

When used for the purpose of verifying and validating the AMR for non-waived Therapeutic Drug (TDM) testing methods, it is recommended that Audit™ MicroCV™ Therapeutic Drug (TDM) Linearity Set be used within five days after reconstitution and stored tightly capped at 2-8°C. Leaving the vial uncapped, or prolonging its time at room temperature, will void this reconstituted stability claim. Make sure the contents of the vial are well mixed before use.

## PROCEDURE

Follow the manufacturer's instructions provided for verifying and validating the AMR. Verify that the lot number on each vial matches the package insert. To avoid evaporation, do not leave the vial uncapped. Calibration verification linearity material should be run<sup>1</sup>:

- every six (6) months.
- when a complete change of reagents for a procedure is introduced.
- when there is major preventive maintenance or replacement of critical parts that may influence test performance.
- when control materials reflect an unusual trend or shift, or are outside of the laboratory's acceptable limits.
- when the laboratory's established schedule for verifying the reportable range for patient test results requires more frequent calibration verification.

## Materials provided

- Audit™ MicroCV™ Therapeutic Drug (TDM) Linearity Set, 5 x 5 mL

## INSTRUCTIONS FOR USE

- Remove a vial from the package, **reconstitute with 5.5ml of deionized water**, and gently swirl occasionally for 10 minutes. Do not shake. Do not mix mechanically.
- Refer to instrument or assay instruction manual for verifying and validating the AMR.
- After sampling, replace stopper and return to original package at 2-8°C to obtain the maximum five-day reconstituted stability.

## CALCULATIONS OF RESULTS

Each set of Audit™ MicroCV™ Therapeutic Drug (TDM) Linearity Set is prepared in a manner such that an equal distance exists between each consecutive level. This dilution scheme is consistent with the NCCLS recommendation<sup>2</sup> for preparing linearity sets. Using this method of dilution, Levels A and E are prepared. Once done, Levels B, C and D are prepared by combining Level A and E as follows:

Level B is a mixture of three parts of Level A and one part of Level E.  
 Level C is a mixture of two parts of Level A and two parts of Level E.  
 Level D is a mixture of one part of Level A and three parts of Level E.

Values can be determined using the recovered values for Levels A and E. Using this method, the following formula applies:

Level B = 0.75 (Level A) + 0.25 (Level E)  
 Level C = 0.5 (Level A) + 0.5 (Level E)  
 Level D = 0.25 (Level A) + 0.75 (Level E)

## LIMITATIONS OF THE PROCEDURE

Audit™ MicroCV™ Therapeutic Drug (TDM) Linearity Set is not intended for use as routine quality control material or as calibration material.

Make sure that each vial is brought to room temperature before testing.

## EXPECTED VALUES

Each lot of product is manufactured such that a linear relationship exists among levels. Actual results obtained may vary depending on instrumentation, methodology and assay temperature. Results may also be dependent on the accuracy of the instrument/reagent system calibration. The degree of acceptable non-linearity is an individual judgment based on methodology, clinical significance and medical decision levels of the test analyte.

## ORDERING INFORMATION

Product Number	Product Description	Product Packaging
K707M-5	Audit™ MicroCV™ Therapeutic Drug (TDM) Linearity Set	5 x 5mL

<sup>1</sup>Federal Register 42 CFR Part 493, Department of Health and Human Services, January 24, 2003; §493.1255, (b) (1) (ii).

<sup>2</sup>Dilution schemes are based on guidelines provided by The National Committee for Clinical Laboratory Standards (NCCLS) in approved guideline EP6-A, "Evaluation of the Linearity of Quantitative Measurement Procedures: A Statistical Approach; Approved Guideline", April 2003.

Analytes Include:

	A	E		A	E
Acetaminophen (µg/mL)	0	200	Phenobarbital (µg/mL)	0	80
Amikacin (µg/mL)	0	5	Phenytoin (µg/mL)	0	40
Carbamazepine (µg/mL)	0	20	Quinidine (µg/mL)	0	8
Digoxin (ng/mL)	0	4	Salicylate (mg/L)	0	80
Disopyramide (mg/L)	0	2.5	Theophylline (µg/mL)	0	40
Ethosuximide (mg/L)	0	30	Tobramycin (µg/mL)	0	10
Gentamicin (µg/mL)	0	10	Valproic Acid (µg/mL)	0	150
Methotrexate (µmol/L)	0	1	Vancomycin (µg/mL)	0	100