

Newborn Screening Quality Assurance Program

2022 Set 2 Quality Control Report

In co-sponsorship with Association of Public Health Laboratories (APHL)
Provided by the Newborn Screening and Molecular Biology Branch
Centers for Disease Control and Prevention
4770 Buford Highway NE, MS/F19
Atlanta, GA 30341-3724
Email: NSQAPDMT@cdc.gov

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Introduction

The NSQAP Quality Control (QC) dried blood spot (DBS) materials provide participants with external controls to assess method performance over time. The controls provide continuity and transcend changes in production lots of routinely used method- or kit-control materials. The external QC materials are intended to supplement the participants' method- or kit-control materials at periodic intervals to allow participants to monitor the long-term stability of their assays. NSQAP QC material is not a replacement for manufacturer kit controls or other daily QC and should not be used for routine analysis. This report contains a summary of the 2022 Set 2 QC data submitted during the second half of the year by state, contract, and private laboratories in the United States; international participants; and manufacturers of screening test products.

QC Material Production

QC specimen lots were provided as 6-month supplies of DBS on filter paper. DBS QC lots were prepared from whole blood of 50% hematocrit. The materials were enriched with predetermined quantities of selected analytes and dispensed in 100 μ L aliquots on Grade 903 filter paper (Cytiva (Cardiff, United Kingdom)).

NSQAP provides QC materials for analysis of thyroxine (T4), thyroid-stimulating hormone (TSH), 17 α -hydroxyprogesterone (17OHP), total galactose (TGal), galactose-1-phosphate uridylyltransferase (GALT), immunoreactive trypsinogen (IRT), phenylalanine (Phe), leucine (Leu), methionine (Met), tyrosine (Tyr), valine (Val), citrulline (Cit), alanine (Ala), arginine (Arg), ornithine (Orn), glycine (Gly), succinylacetone (SUAC). The QC pool for Tandem Mass Spectrometry (MSMS1QC) included enrichments for twenty acylcarnitines - free carnitine (C0), acetylcarnitine (C2), propionylcarnitine (C3), malonylcarnitine (C3DC), butyrylcarnitine (C4), hydroxybutyrylcarnitine (C4OH), isovalerylcarnitine (C5), tiglylcarnitine (C5:1), glutarylcarnitine (C5DC), hydroxyisovalerylcarnitine (C5OH), hexanoylcarnitine (C6), octanoylcarnitine (C8), decanoylcarnitine (C10), dodecanoylcarnitine (C12), myristoylcarnitine (C14), tetradecenoylcarnitine (C14:1), palmitoylcarnitine (C16), hydroxypalmitoylcarnitine (C16OH), stearoylcarnitine (C18), hydroxystearoylcarnitine (C18OH), 20:0- 22:0- 24:0- and 26:0-lysophosphatidylcholine for the detection of X-linked Adrenoleukodystrophy (ALD), creatine (CRE), guanidinoacetic acid (GUAC), creatinine (CRN). We also provided materials for galactocerebrosidase (GALC), acid α -glucosidase (GAA), α -L-iduronidase (IDUA), α -galactosidase (GLA), β -glucocerebrosidase (ABG), and acid sphingomyelinase (ASM) for the detection of Lysosomal Storage Disorder (LSD).

T4, TSH, 17OHP and TGal, GALT consisted of DBS materials from three lots per analyte, with each lot containing a different concentration of analyte. The shipment for IRT, TGal, amino acids, SUAC, acylcarnitines, ALD, GAMT, and LSD consisted of DBS materials from four lots.

NSQAP also distributed certified QC materials for newborn screening analytes and disorders designed for second-tier testing by tandem mass spectrometry (MS/MS). These programs include Second-tier Congenital Adrenal Hyperplasia (CAHQC) by LC-MS/MS for the analytes 17 α -hydroxyprogesterone (17OHP2), 4-androstenedione (4AD2), cortisol (CORT2), 11-deoxycortisol (11D2), and 21-deoxycortisol (21D2); Second-tier Maple Syrup Urine Disease and Phenylketonuria (MSUD-PKUQC) by LC-MS/MS for the analytes alloisoleucine (ALE2), isoleucine (ILE2), leucine (LEU2),

phenylalanine (PHE2), tyrosine (TYR2), and valine (VAL2); Second-tier Methylmalonic/Propionic Acidemia and QC Material Production (cont.)

Homocystinuria (MMA-tHCY) by LC-MS/MS for the analytes malonic acid (MA2), methylmalonic acid (MMA2), ethylmalonic acid (EMA2), 2-methylcitric acid (MCA2), and total homocysteine (tHCY2). The shipment for these analytes consisted of DBS materials from four or five lots.

QC Material Distribution

On June 27, 2022, we distributed DBS quality control (QC) materials to 555 participating laboratories.

QC Data Reporting Requirements

Participants used the NSQAP Participant Portal at <https://nbs.dynamics365portals.us/> to report results. Required input for QC data reporting included the following 1) analyte kit or method, 2) results of duplicate sample analysis from five independent runs in the analytic units and decimal places requested, and 3) ten data points for each lot and analyte.

The following criteria are required for successful data entry. Refer to the QC Data Entry Instructions posted in the Portal for information on how to correctly submit QC data.

The majority of errors occurred when the “upload” option was chosen and the pre-filled data entry template was used to submit results. For successful data entry:

- **Fill in ALL the required data on the pre-filled template (Lab code number, method, method code, analyte, analyte code, analyte abbreviation, Lot Numbers, and replicate data for each lot)**
- **When entering the Lot Number, only use the 5-digit alpha numeric, not the full number stamped on the card. (Example: A2005 – one letter followed by four numbers)**
- **Enter all results to the correct decimal point per analyte**
- **Do not create exact duplicate rows of data**
- **Assure that the method you are reporting is applicable to the analyte you are reporting**
- **Convert results to the requested units where applicable**

To avoid errors with the pre-filled template, use the manual entry option to enter all QC results. Participants are required to choose either manual entry or the pre-filled template. Both options cannot be used to submit QC data.

Participant Results

For the Set 2 QC materials, we compiled the participant results from five analytic runs from each QC lot and calculated mean values and standard deviations (SD). Data values outside 4SD limits were reviewed, and if considered to be “blunders”, removed from the data set. For statistical analysis, we could not include qualitative data, data submitted in unidentified units, or data from less than five analytic runs per specimen lot per analyte. For a given method to be shown in the analyte summary tables, we require data from at least 5 laboratories. Tables for the analytes CRE, CRN and MA are not shown due to insufficient data.

To ensure that all results are appropriately reported, participants must convert their results to the requested units prior to data entry. For GALT analysis, where no conversion factor exists between units of U/g Hb and other reportable units, we included a separate table to provide participants with peer-group statistics. For LSDQC analysis, where mean activities differ based on method, we provided separate tables if sufficient data was submitted.

The reported QC data are summarized in tables on pages 4—105. Each analyte summary table provides the following:

- The name of the analyte, analyte abbreviation and reportable units of measure.
- Method – the reported method for which peer group statistics are provided.
- Total mean - The average of the total number of data points reported for a given lot within the specified method.
- Number of labs - The total number of laboratories reporting analyte data for a given lot level within the specified method group. Note: Methods with less than five laboratories reporting data were not included in the tables.
- Total N – The total number of data points for a given analyte and lot within the specified method.
- Total SD: The standard deviation of data points for a given analyte and lot within the specified method.

- Intralaboratory SD: The within lab standard deviation of data points for a given analyte and lot within the specified method.
- Interlaboratory SD: The between lab standard deviation of data points for a given analyte and lot within the specified method.

Discussion

Summary tables show data sorted by method and are provided as sets of three to five concentrations. Calculations of concentrations for QC lots measured by MS/MS methods may vary with the type of internal standard used. Data are not sorted by internal standard type.

For the purpose of our assessment, we conducted an internal review of basic statistical parameters including the Total mean, Total SD, Intralaboratory SD and Interlaboratory SD, assuming a normal distribution. Assessment criteria included the comparison of the Total Mean to the enrichment, mean activity, or assayed value levels. These values may be influenced by the level of analyte enrichment and the ability of a method to recover the analyte. We examined instances where the Total SD appeared to be high (>25% mean) to determine if the overall values across participants appeared to have high variability, or if the reported values of one lab were falsely skewing the data. In cases of the latter, the aberrant data was removed, and all parameters recalculated. Consistently high Total SDs may be indicative of method instability considering that homogeneity is ensured for all NSQAP QC materials.

Thyroxine (T4) (µg/dL serum)

Analyte: Thyroxine (T4) - Lot A2000 - Enrichment 2

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFI [®] A Neonatal T4 PerkinElmer	2.1	7	70	1.2	0.4	1.2
DELFI [®] A Neonatal T4 PerkinElmer	2.1	9	90	0.6	0.3	0.5
GSP [®] T4 Neonatal PerkinElmer	1.8	19	176	0.4	0.3	0.4

Analyte: Thyroxine (T4) - Lot B2000 - Enrichment 7

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFI [®] A Neonatal T4 PerkinElmer	8.0	7	70	3.1	0.7	3.0
DELFI [®] A Neonatal T4 PerkinElmer	6.7	9	90	1.5	0.7	1.4
GSP [®] T4 Neonatal PerkinElmer	6.8	22	218	0.9	0.6	0.7

Analyte: Thyroxine (T4) - Lot C2000 - Enrichment 11

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFI [®] A Neonatal T4 PerkinElmer	12.2	7	70	4.4	1.3	4.2
DELFI [®] A Neonatal T4 PerkinElmer	10.5	9	90	2.2	0.9	2.1
GSP [®] T4 Neonatal PerkinElmer	11.0	22	220	1.4	0.9	1.1

Thyroid-Stimulating Hormone (TSH) (μ IU/mL serum)

Analyte: Thyroid-Stimulating Hormone (TSH) - Lot A2201 - Enrichment 25

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFI [®] A Neonatal hTSH PerkinElmer	30.4	34	340	7.0	2.3	6.7
DELFI [®] A Neonatal TSH PerkinElmer	27.8	42	414	8.6	2.8	8.2
ZenTech ELISA Neonatal TSH	24.2	7	70	12.4	2.8	12.1
GSP [®] hTSH Neonatal PerkinElmer	30.5	89	886	7.1	2.7	6.6
Neonatal TSH LabSystems	28.9	14	140	10.0	4.0	9.2
DiaSorin Immunoassay TSH	33.0	7	70	6.3	3.4	5.3

Analyte: Thyroid-Stimulating Hormone (TSH) - Lot B2201 - Enrichment 40

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFI [®] A Neonatal hTSH PerkinElmer	45.8	34	340	10.8	3.3	10.2
DELFI [®] A Neonatal TSH PerkinElmer	43.1	42	414	14.0	5.4	13.0
ZenTech ELISA Neonatal TSH	36.0	7	70	18.2	5.1	17.5
GSP [®] hTSH Neonatal PerkinElmer	46.3	89	886	10.7	4.0	10.0
Neonatal TSH LabSystems	45.0	14	140	14.7	5.9	13.4
DiaSorin Immunoassay TSH	48.1	7	70	9.8	5.9	7.8

Analyte: Thyroid-Stimulating Hormone (TSH) - Lot C2201 - Enrichment 80

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFI [®] A Neonatal hTSH PerkinElmer	94.3	34	340	22.5	6.7	21.4
DELFI [®] A Neonatal TSH PerkinElmer	87.6	42	414	26.2	8.7	24.8
ZenTech ELISA Neonatal TSH	79.8	7	70	36.6	9.8	35.2
GSP [®] hTSH Neonatal PerkinElmer	98.5	89	886	22.8	8.2	21.3
Neonatal TSH LabSystems	91.6	14	140	29.5	11.1	27.3
DiaSorin Immunoassay TSH	92.0	7	70	17.9	11.0	14.2

17 a-Hydroxyprogesterone (17OHP) (ng/mL serum)

Analyte: 17 a-Hydroxyprogesterone (17OHP) - Lot A2105 - Enrichment 25

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFI [®] A Neonatal 17OHP PerkinElmer	23.5	26	254	3.4	2.1	2.7
DELFI [®] A Neonatal 17OHP PerkinElmer	22.7	27	270	6.0	2.4	5.5
GSP [®] 17OHP Neonatal PerkinElmer	23.7	66	648	4.2	2.3	3.6
Neonatal 17OHP LabSystems	22.4	15	150	5.0	2.2	4.5

Analyte: 17 a-Hydroxyprogesterone (17OHP) - Lot B2105 - Enrichment 50

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFI [®] A Neonatal 17OHP PerkinElmer	49.4	26	254	7.3	4.3	5.9
DELFI [®] A Neonatal 17OHP PerkinElmer	49.3	27	270	12.5	5.1	11.4
GSP [®] 17OHP Neonatal PerkinElmer	49.1	66	647	8.2	4.1	7.2
Neonatal 17OHP LabSystems	38.9	15	150	9.5	4.8	8.2

Analyte: 17 a-Hydroxyprogesterone (17OHP) - Lot C2105 - Enrichment 100

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFI [®] A Neonatal 17OHP PerkinElmer	102.1	26	254	17.8	11.5	13.5
DELFI [®] A Neonatal 17OHP PerkinElmer	102.3	27	270	29.5	10.5	27.6
GSP [®] 17OHP Neonatal PerkinElmer	95.0	66	653	15.9	7.5	14.0
Neonatal 17OHP LabSystems	73.2	15	149	19.5	10.6	16.4

Total Galactose (TGal) (mg/dL blood)

Analyte: Total Galactose (TGal) - Lot A2105 - Enrichment 5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
ZenTech Neonatal TGal Enzymatic Colorimetric	6.1	10	100	2.0	0.9	1.7
Fluorometric manual TGal - non-kit	5.2	5	50	1.8	0.7	1.7
GSP® TGal Neonatal PerkinElmer	4.4	37	366	0.9	0.5	0.8
Fluorescence TGal Neonatal PerkinElmer	4.0	22	220	1.1	0.6	0.9
Neonatal® HORM Kit PerkinElmer	4.0	22	220	1.1	0.6	0.9

Analyte: Total Galactose (TGal) - Lot B2105 - Enrichment 10

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
ZenTech Neonatal TGal Enzymatic Colorimetric	10.0	10	100	2.1	1.0	1.9
Fluorometric manual TGal - non-kit	10.2	5	50	2.0	1.2	1.6
GSP® TGal Neonatal PerkinElmer	8.7	37	365	1.7	0.9	1.4
Fluorescence TGal Neonatal PerkinElmer	8.0	22	220	1.6	0.8	1.3
Neonatal® HORM Kit PerkinElmer	8.0	22	220	1.6	0.8	1.3

Analyte: Total Galactose (TGal) - Lot C2105 - Enrichment 30

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
ZenTech Neonatal TGal Enzymatic Colorimetric	22.9	10	100	4.2	2.1	3.7
Fluorometric manual TGal - non-kit	27.2	5	50	4.8	1.2	4.7
GSP® TGal Neonatal PerkinElmer	27.3	37	366	4.2	2.4	3.5
Fluorescence TGal Neonatal PerkinElmer	23.6	22	220	3.8	2.2	3.1
Neonatal® HORM Kit PerkinElmer	23.6	22	220	3.8	2.2	3.1

Galactose-1-phosphate Uridyltransferase (GALT) (U/g Hb)

Analyte: Galactose-1-phosphate Uridyltransferase (GALT) - Lot F2103 - Mean Activity 1.6

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Fluorescence GALT Neonatal PerkinElmer, U/g Hb	1.7	25	248	0.6	0.3	0.6
Microplate Reagent Kit Spotcheck® GALT Astoria-Pacific, U/g Hb	0.7	6	60	0.3	0.2	0.2

Analyte: Galactose-1-phosphate Uridyltransferase (GALT) - Lot G2103 - Mean Activity 4.2

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Fluorescence GALT Neonatal PerkinElmer, U/g Hb	3.5	26	260	0.7	0.4	0.5
Microplate Reagent Kit Spotcheck® GALT Astoria-Pacific, U/g Hb	2.6	6	60	0.6	0.3	0.6

Analyte: Galactose-1-phosphate Uridyltransferase (GALT) - Lot H2103 - Mean Activity 9.6

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Fluorescence GALT Neonatal PerkinElmer, U/g Hb	8.0	26	260	1.8	0.9	1.5
Microplate Reagent Kit Spotcheck® GALT Astoria-Pacific, U/g Hb	6.7	6	60	1.7	0.6	1.6

Galactose-1-phosphate Uridyltransferase (GALT) (U/dL blood)

Analyte: Galactose-1-phosphate Uridyltransferase (GALT) - Lot F2103

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
GSP® GALT Neonatal PerkinElmer, U/dL blood	0.9	16	131	0.7	0.2	0.6

Analyte: Galactose-1-phosphate Uridyltransferase (GALT) - Lot G2103

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
GSP® GALT Neonatal PerkinElmer, U/dL blood	4.0	26	254	0.7	0.4	0.6

Analyte: Galactose-1-phosphate Uridyltransferase (GALT) - Lot H2103

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
GSP® GALT Neonatal PerkinElmer, U/dL blood	14.6	26	254	3.5	1.0	3.3

Immunoreactive Trypsinogen (IRT) (ng/mL blood)

Analyte: Immunoreactive Trypsinogen (IRT) - Lot A2109 - Assayed Values 19.3

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFI [®] A Neonatal IRT PerkinElmer	18.5	33	330	2.5	1.6	2.0
DELFI [®] A Neonatal IRT	18.7	18	180	3.2	2.0	2.5
FEIA IRT Labsystems	22.5	8	80	7.5	4.9	5.7
GSP [®] IRT Neonatal PerkinElmer, ng/mL blood	18.2	61	605	2.2	1.4	1.7

Analyte: Immunoreactive Trypsinogen (IRT) - Lot B2109 - Assayed Values 65.1

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFI [®] A Neonatal IRT PerkinElmer	61.8	33	330	7.0	4.3	5.6
DELFI [®] A Neonatal IRT	59.7	18	180	9.7	5.8	7.7
FEIA IRT Labsystems	77.4	8	80	17.4	10.8	13.7
GSP [®] IRT Neonatal PerkinElmer, ng/mL blood	62.4	62	617	6.9	4.6	5.2

Analyte: Immunoreactive Trypsinogen (IRT) - Lot C2109 - Assayed Values 115.3

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFI [®] A Neonatal IRT PerkinElmer	112.9	33	330	13.3	8.2	10.4
DELFI [®] A Neonatal IRT	111.1	18	180	21.9	14.2	16.7
FEIA IRT Labsystems	152.0	8	80	45.2	23.2	38.9
GSP [®] IRT Neonatal PerkinElmer, ng/mL blood	113.7	62	617	12.6	8.3	9.5

Analyte: Immunoreactive Trypsinogen (IRT) - Lot D2109 - Assayed Values 214.1

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFI [®] A Neonatal IRT PerkinElmer	198.6	33	330	24.9	16.0	19.1
DELFI [®] A Neonatal IRT	196.7	18	180	31.1	17.5	25.7
FEIA IRT Labsystems	272.7	8	80	82.3	40.8	71.4
GSP [®] IRT Neonatal PerkinElmer, ng/mL blood	205.8	62	618	22.5	14.3	17.4

Alanine (ALA) (μmol/L blood)

Analyte: Alanine (ALA) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	164.90	7	70	36.68	8.44	35.69
Derivatized - MS/MS non-kit	192.05	35	346	53.33	22.84	48.19
Non-derivatized - MS/MS MassChrom® Chromsystems	145.84	9	88	55.59	23.39	50.43
Non-derivatized - MS/MS NeoBase™ PerkinElmer	210.67	40	389	40.09	18.27	35.68
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	202.36	31	297	41.63	18.10	37.49
Non-derivatized - MS/MS non-kit	187.78	12	120	43.58	16.50	40.33

Analyte: Alanine (ALA) - Lot B2115 - Enrichment 200

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	356.97	7	70	72.40	23.26	68.56
Derivatized - MS/MS non-kit	397.91	35	349	98.33	41.81	89.00
Non-derivatized - MS/MS MassChrom® Chromsystems	307.33	9	88	79.11	31.92	72.38
Non-derivatized - MS/MS NeoBase™ PerkinElmer	456.86	40	387	70.65	36.32	60.60
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	424.96	31	300	66.67	32.65	58.13
Non-derivatized - MS/MS non-kit	407.15	12	120	91.01	30.06	85.90

Analyte: Alanine (ALA) - Lot C2115 - Enrichment 400

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	463.93	7	70	105.75	39.51	98.08
Derivatized - MS/MS non-kit	517.72	35	346	132.17	51.21	121.85
Non-derivatized - MS/MS MassChrom® Chromsystems	401.56	9	88	121.16	50.79	110.00
Non-derivatized - MS/MS NeoBase™ PerkinElmer	591.90	40	387	103.00	51.50	89.20
Non-derivatized - MS/MS NeoBase™ 2 PerkinElmer	552.48	31	300	86.37	40.75	76.16
Non-derivatized - MS/MS non-kit	534.05	12	120	121.38	38.63	115.07

Analyte: Alanine (ALA) - Lot D2115 - Enrichment 600

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	567.41	7	70	129.48	35.86	124.42
Derivatized - MS/MS non-kit	647.52	35	348	183.21	62.91	172.08
Non-derivatized - MS/MS MassChrom® Chromsystems	501.66	9	88	179.62	72.94	164.14
Non-derivatized - MS/MS NeoBase™ PerkinElmer	721.66	40	384	115.91	57.07	100.88
Non-derivatized - MS/MS NeoBase™ 2 PerkinElmer	677.63	31	300	110.12	54.75	95.55
Non-derivatized - MS/MS non-kit	665.08	12	120	163.72	61.72	151.64

Arginine (ARG) (µmol/L blood)

Analyte: Arginine (ARG) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	9.59	7	70	1.98	0.95	1.73
Derivatized - MS/MS non-kit	8.50	37	370	4.48	1.67	4.15
Non-derivatized - MS/MS MassChrom® Chromsystems	8.49	10	97	3.11	1.11	2.91
Non-derivatized - MS/MS NeoBase™ PerkinElmer	8.26	41	400	2.73	1.17	2.46
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	7.94	34	324	2.18	0.82	2.03
Non-derivatized - MS/MS non-kit	9.73	11	110	3.96	1.22	3.77

Analyte: Arginine (ARG) - Lot B2115 - Enrichment 100

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	92.71	7	70	14.58	6.36	13.12
Derivatized - MS/MS non-kit	70.96	37	368	28.87	8.96	27.44
Non-derivatized - MS/MS MassChrom® Chromsystems	97.58	10	98	29.85	7.08	29.00
Non-derivatized - MS/MS NeoBase™ PerkinElmer	86.29	41	400	12.89	5.91	11.46
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	91.46	34	328	12.55	5.52	11.28
Non-derivatized - MS/MS non-kit	92.59	11	110	38.84	6.61	38.27

Analyte: Arginine (ARG) - Lot C2115 - Enrichment 200

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	166.61	7	70	25.91	14.72	21.33
Derivatized - MS/MS non-kit	132.72	37	370	55.23	16.82	52.60
Non-derivatized - MS/MS MassChrom® Chromsystems	178.84	10	98	55.35	13.88	53.58
Non-derivatized - MS/MS NeoBase™ PerkinElmer	161.47	41	400	26.45	11.96	23.59
Non-derivatized - MS/MS NeoBase™ 2 PerkinElmer	172.40	34	331	24.03	9.88	21.90
Non-derivatized - MS/MS non-kit	175.15	11	110	64.33	14.47	62.68

Analyte: Arginine (ARG) - Lot D2115 - Enrichment 300

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	233.37	7	70	39.57	18.07	35.20
Derivatized - MS/MS non-kit	193.66	37	368	82.63	24.21	79.01
Non-derivatized - MS/MS MassChrom® Chromsystems	245.87	10	98	70.01	16.90	67.94
Non-derivatized - MS/MS NeoBase™ PerkinElmer	234.37	41	400	31.73	16.62	27.03
Non-derivatized - MS/MS NeoBase™ 2 PerkinElmer	250.32	34	330	37.18	16.50	33.32
Non-derivatized - MS/MS non-kit	259.44	11	110	107.76	22.82	105.32

Citrulline (CIT) (µmol/L blood)

Analyte: Citrulline (CIT) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	13.66	7	67	1.92	0.98	1.65
Derivatized - MS/MS non-kit	13.10	39	388	4.59	2.26	4.00
Non-derivatized - MS/MS MassChrom® Chromsystems	13.19	10	100	2.67	1.57	2.16
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	13.87	5	50	1.91	1.24	1.46
Non-derivatized - MS/MS NeoBase™ PerkinElmer	14.31	44	436	2.54	1.62	1.95
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	13.72	37	357	2.32	1.41	1.84
Non-derivatized - MS/MS non-kit	13.31	16	156	3.93	1.40	3.68

Analyte: Citrulline (CIT) - Lot B2115 - Enrichment 25

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	34.94	7	68	4.11	1.85	3.67
Derivatized - MS/MS non-kit	32.26	39	388	9.32	3.36	8.69
Non-derivatized - MS/MS MassChrom® Chromsystems	36.26	10	100	7.19	4.25	5.79
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	36.13	5	50	3.98	1.97	3.46
Non-derivatized - MS/MS NeoBase™ PerkinElmer	36.90	44	436	5.39	3.19	4.34
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	35.95	37	364	4.88	2.92	3.91
Non-derivatized - MS/MS non-kit	34.12	16	155	7.91	2.83	7.39

Analyte: Citrulline (CIT) - Lot C2115 - Enrichment 100

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	94.89	7	68	12.30	7.35	9.86
Derivatized - MS/MS non-kit	87.21	39	388	24.61	9.20	22.83
Non-derivatized - MS/MS MassChrom® Chromsystems	96.98	10	100	16.53	8.53	14.16
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	98.90	5	50	8.70	4.77	7.28
Non-derivatized - MS/MS NeoBase™ PerkinElmer	99.60	44	436	13.13	7.33	10.89
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	97.26	37	364	12.91	7.27	10.67
Non-derivatized - MS/MS non-kit	94.19	16	156	24.10	7.17	23.01

Analyte: Citrulline (CIT) - Lot D2115 - Enrichment 250

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	213.91	7	68	29.46	15.60	24.99
Derivatized - MS/MS non-kit	198.92	39	385	55.30	18.10	52.25
Non-derivatized - MS/MS MassChrom® Chromsystems	216.06	10	100	33.06	13.30	30.27
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	223.42	5	50	21.42	9.25	19.32
Non-derivatized - MS/MS NeoBase™ PerkinElmer	224.24	44	436	26.28	15.55	21.19
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	218.96	37	364	27.39	15.53	22.56
Non-derivatized - MS/MS non-kit	213.40	16	155	58.05	16.53	55.64

Glycine (GLY) ($\mu\text{mol/L}$ blood)

Analyte: Glycine (GLY) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	244.96	5	50	28.69	17.25	22.92
Derivatized - MS/MS non-kit	261.96	28	280	83.89	26.50	79.59
Non-derivatized - MS/MS MassChrom® Chromsystems	155.87	7	70	30.04	9.16	28.61
Non-derivatized - MS/MS NeoBase™ PerkinElmer	265.24	37	369	47.67	25.57	40.23
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	274.59	27	256	47.48	22.36	41.88
Non-derivatized - MS/MS non-kit	215.29	7	70	54.03	35.96	40.33

Analyte: Glycine (GLY) - Lot B2115 - Enrichment 300

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	503.13	5	50	81.91	45.29	68.25
Derivatized - MS/MS non-kit	529.43	28	280	157.18	44.21	150.84
Non-derivatized - MS/MS MassChrom® Chromsystems	321.85	7	70	60.38	17.37	57.83
Non-derivatized - MS/MS NeoBase™ PerkinElmer	544.00	37	370	85.74	47.15	71.62
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	566.63	27	264	107.44	40.00	99.72
Non-derivatized - MS/MS non-kit	453.95	7	70	115.53	76.65	86.43

Analyte: Glycine (GLY) - Lot C2115 - Enrichment 600

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	695.70	5	50	108.65	70.21	82.92
Derivatized - MS/MS non-kit	738.88	28	280	229.00	69.82	218.09
Non-derivatized - MS/MS MassChrom® Chromsystems	452.64	7	70	89.50	27.86	85.05
Non-derivatized - MS/MS NeoBase™ PerkinElmer	769.67	37	370	109.79	56.12	94.36
Non-derivatized - MS/MS NeoBase™ 2 PerkinElmer	790.42	27	262	141.49	57.85	129.13
Non-derivatized - MS/MS non-kit	585.60	8	80	227.39	78.59	213.38

Analyte: Glycine (GLY) - Lot D2115 - Enrichment 900

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	923.46	5	50	149.46	88.45	120.49
Derivatized - MS/MS non-kit	974.12	28	280	294.00	79.37	283.08
Non-derivatized - MS/MS MassChrom® Chromsystems	589.59	7	70	123.77	32.15	119.52
Non-derivatized - MS/MS NeoBase™ PerkinElmer	1007.50	37	370	152.79	76.69	132.15
Non-derivatized - MS/MS NeoBase™ 2 PerkinElmer	1025.30	27	260	175.54	78.43	157.04
Non-derivatized - MS/MS non-kit	790.62	8	80	294.61	126.61	266.02

Leucine (LEU) ($\mu\text{mol/L}$ blood)

Analyte: Leucine (LEU) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	68.19	5	50	17.58	7.11	16.08
Derivatized - MS/MS MassChrom® Chromsystems	62.95	7	70	13.67	3.92	13.09
Derivatized - MS/MS non-kit	67.88	38	379	16.28	7.13	14.64
Non-derivatized - MS/MS MassChrom® Chromsystems	73.13	10	100	14.99	4.72	14.23
Non-derivatized - MS/MS NeoBase™ PerkinElmer	76.80	44	430	10.77	5.25	9.41
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	69.86	38	367	11.06	4.46	10.12
Non-derivatized - MS/MS non-kit	70.54	18	174	14.64	6.05	13.33

Analyte: Leucine (LEU) - Lot B2115 - Enrichment 150

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	222.47	5	50	41.38	19.78	36.35
Derivatized - MS/MS MassChrom® Chromsystems	189.63	7	70	41.79	11.08	40.29
Derivatized - MS/MS non-kit	214.09	38	380	41.61	16.76	38.08
Non-derivatized - MS/MS MassChrom® Chromsystems	223.49	10	100	30.84	13.51	27.72
Non-derivatized - MS/MS NeoBase™ PerkinElmer	241.60	44	430	30.70	16.45	25.92
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	219.44	38	372	27.86	13.10	24.59
Non-derivatized - MS/MS non-kit	224.34	18	174	38.52	16.17	34.96

Analyte: Leucine (LEU) - Lot C2115 - Enrichment 300

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	320.47	5	49	60.57	25.88	54.76
Derivatized - MS/MS MassChrom® Chromsystems	271.21	7	70	69.20	24.65	64.66
Derivatized - MS/MS non-kit	317.04	38	380	62.86	26.42	57.03
Non-derivatized - MS/MS MassChrom® Chromsystems	313.39	10	100	44.32	19.08	40.01
Non-derivatized - MS/MS NeoBase™ PerkinElmer	342.58	44	429	41.92	23.09	34.99
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	315.00	38	372	41.24	18.63	36.79
Non-derivatized - MS/MS non-kit	318.86	18	173	57.36	23.65	52.25

Analyte: Leucine (LEU) - Lot D2115 - Enrichment 600

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	538.26	5	50	113.75	45.79	104.13
Derivatized - MS/MS MassChrom® Chromsystems	466.91	7	70	114.29	36.09	108.44
Derivatized - MS/MS non-kit	539.32	38	380	101.04	46.80	89.55
Non-derivatized - MS/MS MassChrom® Chromsystems	528.31	10	100	69.13	24.62	64.60
Non-derivatized - MS/MS NeoBase™ PerkinElmer	588.43	44	430	66.01	36.99	54.67
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	538.75	38	372	70.82	33.99	62.13
Non-derivatized - MS/MS non-kit	548.96	18	174	102.89	39.02	95.20

Methionine (MET) (µmol/L blood)

Analyte: Methionine (MET) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	9.11	6	60	2.39	0.94	2.20
Derivatized - MS/MS non-kit	11.06	39	381	4.07	1.71	3.69
Non-derivatized - MS/MS MassChrom® Chromsystems	12.32	10	100	12.38	1.60	12.28
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	9.82	5	50	1.26	0.64	1.08
Non-derivatized - MS/MS NeoBase™ PerkinElmer	9.12	44	440	2.00	1.14	1.64
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	7.77	37	360	1.48	0.84	1.22
Non-derivatized - MS/MS non-kit	8.78	18	173	2.11	1.14	1.78

Analyte: Methionine (MET) - Lot B2115 - Enrichment 50

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	40.90	6	60	11.90	3.37	11.41
Derivatized - MS/MS non-kit	50.65	39	382	8.99	4.31	7.88
Non-derivatized - MS/MS MassChrom® Chromsystems	47.80	10	100	12.26	3.03	11.88
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	50.50	5	50	4.94	2.86	4.03
Non-derivatized - MS/MS NeoBase™ PerkinElmer	46.80	44	440	6.60	3.41	5.65
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	42.99	37	360	5.83	2.82	5.10
Non-derivatized - MS/MS non-kit	48.06	18	173	8.99	3.78	8.15

Analyte: Methionine (MET) - Lot C2115 - Enrichment 150

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	98.27	6	60	23.30	11.44	20.30
Derivatized - MS/MS non-kit	125.54	39	382	23.40	11.34	20.47
Non-derivatized - MS/MS MassChrom® Chromsystems	114.27	10	100	19.19	7.09	17.84
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	129.24	5	50	8.73	5.68	6.62
Non-derivatized - MS/MS NeoBase™ PerkinElmer	119.34	44	440	14.60	7.34	12.62
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	110.52	37	361	13.05	6.85	11.10
Non-derivatized - MS/MS non-kit	125.33	18	173	22.43	9.88	20.14

Analyte: Methionine (MET) - Lot D2115 - Enrichment 250

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	161.29	6	60	38.81	18.58	34.08
Derivatized - MS/MS non-kit	200.22	39	382	35.04	16.69	30.80
Non-derivatized - MS/MS MassChrom® Chromsystems	181.64	10	100	26.16	9.65	24.31
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	210.62	5	50	21.17	9.91	18.70
Non-derivatized - MS/MS NeoBase™ PerkinElmer	196.25	44	440	24.54	12.61	21.06
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	180.93	37	362	24.37	13.45	20.32
Non-derivatized - MS/MS non-kit	205.28	18	173	37.96	14.51	35.08

Ornithine (ORN) (µmol/L blood)

Analyte: Ornithine (ORN) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	176.41	5	50	31.52	12.63	28.88
Derivatized - MS/MS non-kit	98.58	30	300	51.27	8.99	50.48
Non-derivatized - MS/MS MassChrom® Chromsystems	155.59	8	80	35.66	18.42	30.53
Non-derivatized - MS/MS NeoBase™ PerkinElmer	136.81	36	360	28.84	11.66	26.38
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	131.05	27	264	25.73	9.12	24.05
Non-derivatized - MS/MS non-kit	126.41	10	100	34.98	13.97	32.06

Analyte: Ornithine (ORN) - Lot B2115 - Enrichment 100

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	322.32	5	50	63.82	28.61	57.05
Derivatized - MS/MS non-kit	177.60	30	300	83.31	14.78	81.99
Non-derivatized - MS/MS MassChrom® Chromsystems	272.89	8	80	67.53	19.51	64.65
Non-derivatized - MS/MS NeoBase™ PerkinElmer	250.19	36	360	48.59	19.71	44.42
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	243.18	27	264	46.50	17.03	43.27
Non-derivatized - MS/MS non-kit	232.22	10	100	53.78	17.58	50.82

Analyte: Ornithine (ORN) - Lot C2115 - Enrichment 200

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	395.91	5	50	89.54	46.11	76.76
Derivatized - MS/MS non-kit	215.03	30	300	99.92	22.43	97.37
Non-derivatized - MS/MS MassChrom® Chromsystems	328.54	8	80	71.18	26.11	66.22
Non-derivatized - MS/MS NeoBase™ PerkinElmer	305.70	36	358	57.70	25.02	52.00
Non-derivatized - MS/MS NeoBase™ 2 PerkinElmer	295.56	27	264	48.55	19.46	44.47
Non-derivatized - MS/MS non-kit	278.28	10	100	56.01	18.64	52.82

Analyte: Ornithine (ORN) - Lot D2115 - Enrichment 300

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	467.47	5	50	93.19	48.86	79.35
Derivatized - MS/MS non-kit	262.94	30	300	124.24	22.14	122.25
Non-derivatized - MS/MS MassChrom® Chromsystems	385.43	8	80	82.09	25.69	77.96
Non-derivatized - MS/MS NeoBase™ PerkinElmer	365.26	36	358	58.30	27.95	51.16
Non-derivatized - MS/MS NeoBase™ 2 PerkinElmer	350.93	27	264	61.19	28.71	54.04
Non-derivatized - MS/MS non-kit	338.34	10	100	72.79	28.82	66.84

Phenylalanine (PHE) (µmol/L blood)

Analyte: Phenylalanine (PHE) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	27.67	8	80	4.39	2.04	3.88
Derivatized - MS/MS non-kit	29.72	40	394	6.47	2.92	5.77
Non-derivatized - MS/MS MassChrom® Chromsystems	28.05	15	150	4.84	1.66	4.55
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	31.94	5	50	3.09	1.85	2.48
Non-derivatized - MS/MS NeoBase™ PerkinElmer	28.16	44	440	4.84	2.47	4.16
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	25.00	38	374	3.60	1.65	3.20
Non-derivatized - MS/MS non-kit	27.12	19	186	6.24	2.42	5.75
GSP® Phe Neonatal PerkinElmer	37.90	5	50	15.06	7.02	13.32
Neonatal Phe LabSystems	33.83	7	70	18.26	5.90	17.28
Neonatal® Phe Kit PerkinElmer	35.24	8	68	18.05	11.31	14.07

Analyte: Phenylalanine (PHE) - Lot B2115 - Enrichment 150

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	168.40	8	80	20.91	10.62	18.00
Derivatized - MS/MS non-kit	176.28	40	394	33.44	13.25	30.71
Non-derivatized - MS/MS MassChrom® Chromsystems	170.43	15	150	24.48	8.84	22.83
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	186.46	5	50	16.19	8.99	13.46
Non-derivatized - MS/MS NeoBase™ PerkinElmer	174.92	44	440	22.89	11.82	19.61
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	157.33	38	374	19.30	9.90	16.56
Non-derivatized - MS/MS non-kit	168.81	19	186	35.66	11.99	33.59
GSP® Phe Neonatal PerkinElmer	211.51	5	50	27.95	15.78	23.07
Neonatal Phe LabSystems	190.04	7	70	41.93	22.88	35.13
Neonatal® Phe Kit PerkinElmer	166.49	8	76	30.34	19.68	23.09

Analyte: Phenylalanine (PHE) - Lot C2115 - Enrichment 300

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	282.81	8	80	38.98	22.84	31.59
Derivatized - MS/MS non-kit	299.75	40	394	62.72	23.86	58.00
Non-derivatized - MS/MS MassChrom® Chromsystems	286.50	15	150	42.33	18.45	38.09
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	315.81	5	50	30.75	15.34	26.66
Non-derivatized - MS/MS NeoBase™ PerkinElmer	292.96	44	440	37.39	19.75	31.74
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	265.40	38	374	34.32	16.38	30.16
Non-derivatized - MS/MS non-kit	285.96	19	186	61.99	20.72	58.42
GSP® Phe Neonatal PerkinElmer	336.11	5	50	48.07	24.29	41.48
Neonatal Phe LabSystems	332.13	7	70	78.57	28.04	73.40
Neonatal® Phe Kit PerkinElmer	277.09	8	76	41.54	25.36	32.90

Analyte: Phenylalanine (PHE) - Lot D2115 - Enrichment 450

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	409.25	8	80	52.28	28.36	43.92
Derivatized - MS/MS non-kit	430.15	40	394	86.71	31.78	80.68
Non-derivatized - MS/MS MassChrom® Chromsystems	406.87	15	150	50.14	21.83	45.14
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	447.64	5	50	43.25	22.20	37.11
Non-derivatized - MS/MS NeoBase™ PerkinElmer	422.82	44	440	51.81	28.13	43.51
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	383.24	38	374	51.68	27.56	43.72
Non-derivatized - MS/MS non-kit	412.61	19	186	94.00	31.64	88.51
GSP® Phe Neonatal PerkinElmer	486.14	5	50	49.05	23.94	42.81
Neonatal Phe LabSystems	504.23	7	70	119.74	50.10	108.75
Neonatal® Phe Kit PerkinElmer	389.05	8	76	61.88	40.00	47.22

Guanidinoacetic Acid (GUAC) ($\mu\text{mol/L}$ blood)

Analyte: Guanidinoacetic Acid (GUAC) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS non-kit	1.4	6	60	0.4	0.1	0.39

Analyte: Guanidinoacetic Acid (GUAC) - Lot B2115 - Enrichment 5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS non-kit	5.27	6	60	1.06	0.55	0.91

Analyte: Guanidinoacetic Acid (GUAC) - Lot C2115 - Enrichment 10

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS non-kit	9.25	6	60	1.62	0.83	1.39

Analyte: Guanidinoacetic Acid (GUAC) - Lot D2115 - Enrichment 20

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS non-kit	17.06	6	60	2.92	1.4	2.57

Succinylacetone (SUAC) ($\mu\text{mol/L}$ blood)

Analyte: Succinylacetone (SUAC) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.52	7	66	0.25	0.09	0.24
Derivatized - MS/MS non-kit	0.61	16	158	0.44	0.20	0.40
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.58	35	348	0.29	0.11	0.27
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.25	25	239	0.21	0.08	0.20
Non-derivatized - MS/MS non-kit	0.54	8	80	0.57	0.09	0.56

Analyte: Succinylacetone (SUAC) - Lot B2115 - Enrichment 2.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	1.72	7	66	0.59	0.14	0.57
Derivatized - MS/MS non-kit	2.03	16	160	1.06	0.42	0.98
Non-derivatized - MS/MS NeoBase™ PerkinElmer	1.16	35	348	0.38	0.14	0.36
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.72	26	258	0.27	0.13	0.24
Non-derivatized - MS/MS non-kit	1.49	8	80	0.60	0.29	0.52

Analyte: Succinylacetone (SUAC) - Lot C2115 - Enrichment 10

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	4.66	7	66	1.25	0.30	1.22
Derivatized - MS/MS non-kit	5.96	16	160	3.10	0.77	3.00
Non-derivatized - MS/MS NeoBase™ PerkinElmer	3.05	35	348	1.04	0.33	0.99
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	2.10	26	256	0.53	0.27	0.46
Non-derivatized - MS/MS non-kit	4.90	8	80	2.91	0.73	2.82

Analyte: Succinylacetone (SUAC) - Lot D2115 - Enrichment 20

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	8.01	7	66	2.25	0.42	2.21
Derivatized - MS/MS non-kit	10.53	16	160	5.83	1.33	5.68
Non-derivatized - MS/MS NeoBase™ PerkinElmer	5.18	35	348	1.74	0.57	1.64
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	3.79	26	256	0.93	0.45	0.82
Non-derivatized - MS/MS non-kit	8.47	8	80	4.95	0.75	4.89

Tyrosine (TYR) (µmol/L blood)

Analyte: Tyrosine (TYR) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	27.53	7	70	5.93	2.47	5.39
Derivatized - MS/MS non-kit	27.78	39	386	6.98	3.19	6.21
Non-derivatized - MS/MS MassChrom® Chromsystems	29.24	14	140	5.76	2.56	5.17
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	27.68	5	50	2.08	1.35	1.58
Non-derivatized - MS/MS NeoBase™ PerkinElmer	29.82	44	439	6.30	3.59	5.18
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	26.42	39	376	4.15	1.91	3.68
Non-derivatized - MS/MS non-kit	25.76	16	156	4.60	2.25	4.01

Analyte: Tyrosine (TYR) - Lot B2115 - Enrichment 300

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	281.74	7	70	43.19	21.14	37.67
Derivatized - MS/MS non-kit	277.04	39	390	59.80	26.29	53.71
Non-derivatized - MS/MS MassChrom® Chromsystems	289.33	14	140	44.43	17.85	40.69
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	285.30	5	50	24.37	13.82	20.08
Non-derivatized - MS/MS NeoBase™ PerkinElmer	297.93	44	440	41.54	21.13	35.76
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	264.00	39	376	34.45	15.98	30.52
Non-derivatized - MS/MS non-kit	273.95	16	156	36.51	19.27	31.02

Analyte: Tyrosine (TYR) - Lot C2115 - Enrichment 600

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	527.57	7	70	84.17	49.18	68.31
Derivatized - MS/MS non-kit	519.55	39	390	124.49	59.13	109.55
Non-derivatized - MS/MS MassChrom® Chromsystems	538.63	14	140	83.79	37.40	74.98
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	536.68	5	50	41.25	26.86	31.31
Non-derivatized - MS/MS NeoBase™ PerkinElmer	556.29	44	440	78.39	39.89	67.48
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	492.00	39	376	66.35	28.87	59.74
Non-derivatized - MS/MS non-kit	509.18	16	156	74.46	38.13	63.95

Analyte: Tyrosine (TYR) - Lot D2115 - Enrichment 900

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	759.99	7	70	113.57	56.65	98.44
Derivatized - MS/MS non-kit	764.88	39	390	164.93	64.07	151.98
Non-derivatized - MS/MS MassChrom® Chromsystems	772.15	14	140	107.52	50.47	94.94
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	778.81	5	50	74.47	31.90	67.29
Non-derivatized - MS/MS NeoBase™ PerkinElmer	813.08	44	438	105.43	54.10	90.48
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	721.89	39	376	102.63	49.09	90.13
Non-derivatized - MS/MS non-kit	749.17	16	156	114.81	54.07	101.29

Valine (VAL) (µmol/L blood)

Analyte: Valine (VAL) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	63.69	5	50	12.34	5.19	11.20
Derivatized - MS/MS MassChrom® Chromsystems	73.83	6	60	14.30	5.24	13.30
Derivatized - MS/MS non-kit	82.28	38	369	33.07	10.48	31.37
Non-derivatized - MS/MS MassChrom® Chromsystems	60.02	10	100	13.70	4.00	13.10
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	76.25	5	50	8.63	3.93	7.68
Non-derivatized - MS/MS NeoBase™ PerkinElmer	71.68	43	429	14.07	5.80	12.83
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	65.47	38	364	7.74	3.88	6.70
Non-derivatized - MS/MS non-kit	60.48	15	146	14.48	4.01	13.91

Analyte: Valine (VAL) - Lot B2115 - Enrichment 200

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	242.23	5	50	55.49	19.13	52.08
Derivatized - MS/MS MassChrom® Chromsystems	249.95	6	60	68.35	17.52	66.06
Derivatized - MS/MS non-kit	248.71	38	376	59.03	20.81	55.24
Non-derivatized - MS/MS MassChrom® Chromsystems	224.99	10	100	47.84	14.72	45.52
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	278.58	5	50	30.88	15.86	26.50
Non-derivatized - MS/MS NeoBase™ PerkinElmer	272.17	43	429	46.28	19.80	41.83
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	248.43	38	365	27.66	15.23	23.09
Non-derivatized - MS/MS non-kit	221.56	15	146	51.69	16.21	49.08

Analyte: Valine (VAL) - Lot C2115 - Enrichment 350

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	334.25	5	50	90.58	28.99	85.81
Derivatized - MS/MS MassChrom® Chromsystems	348.36	6	60	104.37	46.84	93.27
Derivatized - MS/MS non-kit	338.47	38	376	75.76	28.08	70.37
Non-derivatized - MS/MS MassChrom® Chromsystems	309.37	10	100	67.32	25.20	62.42
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	392.47	5	50	31.70	19.45	25.03
Non-derivatized - MS/MS NeoBase™ PerkinElmer	378.28	43	429	64.70	28.13	58.26
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	350.23	38	363	40.25	22.45	33.41
Non-derivatized - MS/MS non-kit	313.71	15	146	75.60	18.84	73.22

Analyte: Valine (VAL) - Lot D2115 - Enrichment 500

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	442.26	5	50	112.90	36.97	106.68
Derivatized - MS/MS MassChrom® Chromsystems	477.56	6	60	127.52	39.92	121.12
Derivatized - MS/MS non-kit	445.64	38	376	107.84	43.60	98.63
Non-derivatized - MS/MS MassChrom® Chromsystems	403.18	10	100	82.12	24.06	78.52
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	519.78	5	50	63.67	26.77	57.77
Non-derivatized - MS/MS NeoBase™ PerkinElmer	509.01	43	429	82.35	35.67	74.22
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	466.94	38	364	54.71	33.41	43.32
Non-derivatized - MS/MS non-kit	416.76	15	146	104.71	30.49	100.18

Free Carnitine (C0) (µmol/L blood)

Analyte: Free Carnitine (C0) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	9.70	9	90	2.24	0.88	2.06
Derivatized - MS/MS non-kit	12.46	41	410	2.79	1.40	2.41
Non-derivatized - MS/MS MassChrom® Chromsystems	10.40	10	97	4.02	1.41	3.76
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	12.27	5	50	1.51	0.64	1.37
Non-derivatized - MS/MS NeoBase™ PerkinElmer	10.95	43	430	1.82	0.99	1.53
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	10.93	40	392	1.60	0.85	1.36
Non-derivatized - MS/MS non-kit	11.03	16	156	2.88	1.01	2.70

Analyte: Free Carnitine (C0) - Lot B2115 - Enrichment 10

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	19.85	9	90	4.32	1.95	3.85
Derivatized - MS/MS non-kit	25.66	41	410	5.45	2.35	4.92
Non-derivatized - MS/MS MassChrom® Chromsystems	20.99	10	98	7.38	2.62	6.90
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	24.00	5	50	2.77	1.28	2.45
Non-derivatized - MS/MS NeoBase™ PerkinElmer	21.53	43	429	3.68	1.93	3.13
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	21.15	40	392	3.20	1.66	2.74
Non-derivatized - MS/MS non-kit	21.23	16	156	5.24	2.06	4.82

Analyte: Free Carnitine (C0) - Lot C2115 - Enrichment 20

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	29.23	9	90	6.10	2.95	5.34
Derivatized - MS/MS non-kit	39.40	41	410	8.82	4.47	7.60
Non-derivatized - MS/MS MassChrom® Chromsystems	29.39	10	96	8.35	2.89	7.84
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	35.81	5	50	4.14	1.84	3.71
Non-derivatized - MS/MS NeoBase™ PerkinElmer	31.50	43	428	5.28	2.90	4.41
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	31.16	40	392	4.70	2.40	4.05
Non-derivatized - MS/MS non-kit	31.77	16	156	7.69	2.62	7.23

Analyte: Free Carnitine (C0) - Lot D2115 - Enrichment 30

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	40.76	9	90	8.04	3.12	7.41
Derivatized - MS/MS non-kit	54.20	41	410	12.02	5.69	10.58
Non-derivatized - MS/MS MassChrom® Chromsystems	37.75	10	96	10.72	5.93	8.93
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	47.29	5	50	4.01	2.53	3.11
Non-derivatized - MS/MS NeoBase™ PerkinElmer	42.53	43	428	6.87	3.61	5.85
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	41.73	40	392	6.26	3.55	5.16
Non-derivatized - MS/MS non-kit	43.17	16	156	10.03	3.11	9.54

Acetylcarnitine (C2) (µmol/L blood)

Analyte: Acetylcarnitine (C2) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	7.34	8	80	1.69	0.83	1.48
Derivatized - MS/MS non-kit	7.62	40	399	2.14	0.77	1.99
Non-derivatized - MS/MS MassChrom® Chromsystems	5.11	9	90	0.64	0.32	0.55
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	7.20	5	50	0.77	0.37	0.67
Non-derivatized - MS/MS NeoBase™ PerkinElmer	5.87	43	429	0.79	0.41	0.68
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	5.57	37	364	0.78	0.37	0.69
Non-derivatized - MS/MS non-kit	6.72	15	146	1.25	0.64	1.08

Analyte: Acetylcarnitine (C2) - Lot B2115 - Enrichment 10

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	15.62	8	80	3.12	1.31	2.83
Derivatized - MS/MS non-kit	16.06	40	399	3.81	1.41	3.54
Non-derivatized - MS/MS MassChrom® Chromsystems	13.16	9	90	1.61	0.70	1.45
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	17.78	5	50	1.80	0.84	1.59
Non-derivatized - MS/MS NeoBase™ PerkinElmer	14.34	43	430	2.00	1.00	1.73
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	13.55	37	364	1.68	0.72	1.51
Non-derivatized - MS/MS non-kit	15.95	15	145	3.01	1.56	2.57

Analyte: Acetylcarnitine (C2) - Lot C2115 - Enrichment 20

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	23.14	8	80	4.27	1.95	3.80
Derivatized - MS/MS non-kit	24.33	40	399	5.98	2.27	5.54
Non-derivatized - MS/MS MassChrom® Chromsystems	20.53	9	90	2.67	1.39	2.28
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	27.75	5	50	2.56	1.30	2.20
Non-derivatized - MS/MS NeoBase™ PerkinElmer	22.18	43	429	2.86	1.47	2.45
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	21.05	37	362	2.51	1.17	2.22
Non-derivatized - MS/MS non-kit	25.80	15	146	5.16	2.60	4.46

Analyte: Acetylcarnitine (C2) - Lot D2115 - Enrichment 30

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	31.11	8	80	5.72	2.38	5.20
Derivatized - MS/MS non-kit	32.76	40	399	7.35	2.99	6.72
Non-derivatized - MS/MS MassChrom® Chromsystems	27.73	9	90	2.75	1.33	2.41
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	37.98	5	50	4.23	2.11	3.67
Non-derivatized - MS/MS NeoBase™ PerkinElmer	30.57	43	430	4.29	2.36	3.58
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	29.27	37	364	3.96	1.87	3.48
Non-derivatized - MS/MS non-kit	35.05	15	146	6.64	3.35	5.73

Propionylcarnitine (C3) (µmol/L blood)

Analyte: Propionylcarnitine (C3) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.70	9	90	0.13	0.07	0.11
Derivatized - MS/MS non-kit	0.78	41	408	0.24	0.11	0.22
Non-derivatized - MS/MS MassChrom® Chromsystems	0.61	9	90	0.09	0.05	0.07
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.79	5	50	0.06	0.04	0.05
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.70	44	438	0.10	0.06	0.08
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.81	37	364	0.12	0.06	0.10
Non-derivatized - MS/MS non-kit	0.80	16	156	0.21	0.10	0.19

Analyte: Propionylcarnitine (C3) - Lot B2115 - Enrichment 4

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	3.82	9	90	0.62	0.34	0.51
Derivatized - MS/MS non-kit	4.29	41	408	1.01	0.44	0.91
Non-derivatized - MS/MS MassChrom® Chromsystems	3.72	9	90	0.47	0.21	0.42
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4.62	5	50	0.34	0.23	0.26
Non-derivatized - MS/MS NeoBase™ PerkinElmer	3.98	44	440	0.50	0.28	0.42
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	4.68	39	384	0.61	0.30	0.53
Non-derivatized - MS/MS non-kit	4.47	16	156	1.13	0.52	1.00

Analyte: Propionylcarnitine (C3) - Lot C2115 - Enrichment 8

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	7.03	9	90	0.99	0.51	0.85
Derivatized - MS/MS non-kit	7.96	41	408	2.05	0.84	1.86
Non-derivatized - MS/MS MassChrom® Chromsystems	6.80	9	90	0.99	0.49	0.86
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	8.38	5	50	0.65	0.40	0.52
Non-derivatized - MS/MS NeoBase™ PerkinElmer	7.14	44	440	0.83	0.47	0.68
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	8.49	39	384	1.14	0.58	0.98
Non-derivatized - MS/MS non-kit	8.22	16	156	1.98	0.85	1.79

Analyte: Propionylcarnitine (C3) - Lot D2115 - Enrichment 12

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	10.09	9	90	1.22	0.73	0.99
Derivatized - MS/MS non-kit	11.48	41	408	2.89	1.19	2.64
Non-derivatized - MS/MS MassChrom® Chromsystems	9.79	9	90	1.24	0.57	1.10
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	12.16	5	50	1.11	0.67	0.88
Non-derivatized - MS/MS NeoBase™ PerkinElmer	10.47	44	440	1.32	0.78	1.06
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	12.48	39	384	1.74	0.95	1.46
Non-derivatized - MS/MS non-kit	12.15	16	156	3.01	1.22	2.76

Malonylcarnitine (C3DC) ($\mu\text{mol/L}$ blood)

Analyte: Malonylcarnitine (C3DC) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.04	7	69	0.06	0.04	0.04
Derivatized - MS/MS non-kit	0.03	38	379	0.03	0.02	0.03

Analyte: Malonylcarnitine (C3DC) - Lot B2115 - Enrichment 0.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.45	7	70	0.16	0.06	0.14
Derivatized - MS/MS non-kit	0.30	39	390	0.17	0.06	0.16

Analyte: Malonylcarnitine (C3DC) - Lot C2115 - Enrichment 1.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	1.31	7	70	0.45	0.14	0.42
Derivatized - MS/MS non-kit	0.86	39	390	0.46	0.14	0.44

Analyte: Malonylcarnitine (C3DC) - Lot D2115 - Enrichment 3

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	2.48	7	70	0.92	0.24	0.89
Derivatized - MS/MS non-kit	1.66	39	389	0.86	0.27	0.82

C3DC + C4OH non-derivatized (µmol/L blood)

Analyte: C3DC + C4OH non-derivatized - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Non-derivatized - MS/MS MassChrom® Chromsystems	0.03	5	50	0.01	0.00	0.01
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.04	41	407	0.01	0.01	0.01
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.04	33	320	0.01	0.01	0.01
Non-derivatized - MS/MS non-kit	0.07	9	90	0.05	0.01	0.05

Analyte: C3DC + C4OH non-derivatized - Lot B2115 - Enrichment 1

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Non-derivatized - MS/MS MassChrom® Chromsystems	0.27	5	50	0.05	0.02	0.05
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.36	41	408	0.08	0.04	0.07
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.43	34	332	0.10	0.04	0.09
Non-derivatized - MS/MS non-kit	0.59	9	90	0.42	0.11	0.41

Analyte: C3DC + C4OH non-derivatized - Lot C2115 - Enrichment 2.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Non-derivatized - MS/MS MassChrom® Chromsystems	0.56	5	50	0.11	0.04	0.11
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.72	41	406	0.16	0.07	0.14
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.92	34	332	0.22	0.08	0.21
Non-derivatized - MS/MS non-kit	1.19	9	90	0.84	0.23	0.81

Analyte: C3DC + C4OH non-derivatized - Lot D2115 - Enrichment 5.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Non-derivatized - MS/MS MassChrom® Chromsystems	1.30	5	50	0.21	0.09	0.19
Non-derivatized - MS/MS NeoBase™ PerkinElmer	1.64	41	406	0.34	0.14	0.31
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	2.03	34	332	0.47	0.17	0.44
Non-derivatized - MS/MS non-kit	2.79	9	90	1.91	0.47	1.86

Butyrylcarnitine (C4) (µmol/L blood)

Analyte: Butyrylcarnitine (C4) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.09	8	76	0.03	0.02	0.02
Derivatized - MS/MS non-kit	0.10	39	388	0.05	0.03	0.05
Non-derivatized - MS/MS MassChrom® Chromsystems	0.08	9	90	0.02	0.01	0.02
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.09	5	50	0.02	0.01	0.01
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.09	43	430	0.03	0.02	0.03
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.08	35	338	0.01	0.01	0.01
Non-derivatized - MS/MS non-kit	0.09	14	134	0.03	0.01	0.03

Analyte: Butyrylcarnitine (C4) - Lot B2115 - Enrichment 1

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.73	8	76	0.13	0.08	0.11
Derivatized - MS/MS non-kit	0.83	39	389	0.24	0.12	0.20
Non-derivatized - MS/MS MassChrom® Chromsystems	0.78	9	90	0.12	0.05	0.11
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.90	5	50	0.09	0.05	0.07
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.80	43	430	0.11	0.06	0.10
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.75	36	352	0.09	0.05	0.08
Non-derivatized - MS/MS non-kit	0.85	14	134	0.20	0.08	0.18

Analyte: Butyrylcarnitine (C4) - Lot C2115 - Enrichment 3

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	2.16	8	76	0.37	0.24	0.29
Derivatized - MS/MS non-kit	2.32	39	390	0.55	0.24	0.49
Non-derivatized - MS/MS MassChrom® Chromsystems	2.25	9	90	0.39	0.19	0.34
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	2.47	5	50	0.22	0.13	0.18
Non-derivatized - MS/MS NeoBase™ PerkinElmer	2.20	43	426	0.28	0.15	0.24
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	2.17	36	352	0.27	0.12	0.24
Non-derivatized - MS/MS non-kit	2.41	14	134	0.49	0.20	0.45

Analyte: Butyrylcarnitine (C4) - Lot D2115 - Enrichment 5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	3.61	8	76	0.56	0.30	0.47
Derivatized - MS/MS non-kit	3.76	39	390	0.81	0.39	0.71
Non-derivatized - MS/MS MassChrom® Chromsystems	3.68	9	90	0.57	0.21	0.53
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4.23	5	50	0.40	0.21	0.34
Non-derivatized - MS/MS NeoBase™ PerkinElmer	3.65	43	430	0.52	0.25	0.46
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	3.60	36	352	0.50	0.25	0.44
Non-derivatized - MS/MS non-kit	4.12	14	134	0.81	0.33	0.74

Hydroxybutyrylcarnitine (C4OH) (µmol/L blood)

Analyte: Hydroxybutyrylcarnitine (C4OH) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.06	5	49	0.03	0.02	0.03
Derivatized - MS/MS MassChrom® Chromsystems	0.06	5	49	0.03	0.02	0.03
Derivatized - MS/MS non-kit	0.06	36	357	0.04	0.02	0.03
Derivatized - MS/MS non-kit	0.06	36	357	0.04	0.02	0.03

Analyte: Hydroxybutyrylcarnitine (C4OH) - Lot B2115 - Enrichment 0.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.37	5	50	0.09	0.05	0.07
Derivatized - MS/MS MassChrom® Chromsystems	0.37	5	50	0.09	0.05	0.07
Derivatized - MS/MS non-kit	0.37	36	358	0.12	0.05	0.11
Derivatized - MS/MS non-kit	0.37	36	358	0.12	0.05	0.11

Analyte: Hydroxybutyrylcarnitine (C4OH) - Lot C2115 - Enrichment 1

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.72	5	50	0.22	0.13	0.18
Derivatized - MS/MS MassChrom® Chromsystems	0.72	5	50	0.22	0.13	0.18
Derivatized - MS/MS non-kit	0.70	36	359	0.21	0.10	0.18
Derivatized - MS/MS non-kit	0.70	36	359	0.21	0.10	0.18

Analyte: Hydroxybutyrylcarnitine (C4OH) - Lot D2115 - Enrichment 2.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	1.65	5	50	0.29	0.14	0.25
Derivatized - MS/MS MassChrom® Chromsystems	1.65	5	50	0.29	0.14	0.25
Derivatized - MS/MS non-kit	1.65	36	359	0.45	0.20	0.40
Derivatized - MS/MS non-kit	1.65	36	359	0.45	0.20	0.40

Isovalerylcarnitine (C5) (µmol/L blood)

Analyte: Isovalerylcarnitine (C5) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.07	8	80	0.03	0.02	0.02
Derivatized - MS/MS non-kit	0.06	41	406	0.03	0.02	0.03
Non-derivatized - MS/MS MassChrom® Chromsystems	0.05	10	100	0.01	0.01	0.01
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.05	5	50	0.01	0.01	0.01
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.05	44	436	0.01	0.01	0.01
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.04	38	371	0.01	0.01	0.01
Non-derivatized - MS/MS non-kit	0.05	17	166	0.02	0.01	0.01

Analyte: Isovalerylcarnitine (C5) - Lot B2115 - Enrichment 0.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.53	8	80	0.11	0.07	0.09
Derivatized - MS/MS non-kit	0.52	41	410	0.13	0.07	0.11
Non-derivatized - MS/MS MassChrom® Chromsystems	0.49	10	100	0.09	0.04	0.08
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.55	5	50	0.05	0.03	0.04
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.51	44	439	0.07	0.04	0.06
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.46	39	384	0.07	0.03	0.06
Non-derivatized - MS/MS non-kit	0.55	17	166	0.12	0.06	0.10

Analyte: Isovalerylcarnitine (C5) - Lot C2115 - Enrichment 1.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	1.45	8	80	0.32	0.21	0.25
Derivatized - MS/MS non-kit	1.44	41	408	0.31	0.16	0.27
Non-derivatized - MS/MS MassChrom® Chromsystems	1.36	10	100	0.25	0.12	0.22
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	1.54	5	50	0.17	0.09	0.14
Non-derivatized - MS/MS NeoBase™ PerkinElmer	1.40	44	439	0.19	0.10	0.16
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	1.30	39	384	0.19	0.08	0.17
Non-derivatized - MS/MS non-kit	1.53	17	166	0.31	0.17	0.26

Analyte: Isovalerylcarnitine (C5) - Lot D2115 - Enrichment 3

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	2.77	8	80	0.42	0.22	0.36
Derivatized - MS/MS non-kit	2.78	41	409	0.57	0.29	0.50
Non-derivatized - MS/MS MassChrom® Chromsystems	2.61	10	100	0.42	0.18	0.38
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	2.97	5	50	0.24	0.17	0.18
Non-derivatized - MS/MS NeoBase™ PerkinElmer	2.74	44	439	0.37	0.19	0.31
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	2.55	39	384	0.37	0.17	0.33
Non-derivatized - MS/MS non-kit	3.02	17	165	0.62	0.30	0.54

Tiglylcarnitine (C5:1) (µmol/L blood)

Analyte: Tiglylcarnitine (C5:1) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.02	6	60	0.01	0.01	0.01
Derivatized - MS/MS non-kit	0.02	39	382	0.02	0.01	0.01
Non-derivatized - MS/MS MassChrom® Chromsystems	0.02	8	72	0.01	0.00	0.01
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.01	39	385	0.01	0.00	0.00
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.01	31	290	0.01	0.00	0.01
Non-derivatized - MS/MS non-kit	0.02	12	116	0.03	0.02	0.03

Analyte: Tiglylcarnitine (C5:1) - Lot B2115 - Enrichment 0.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.29	6	60	0.09	0.04	0.08
Derivatized - MS/MS non-kit	0.32	39	386	0.11	0.05	0.10
Non-derivatized - MS/MS MassChrom® Chromsystems	0.20	8	80	0.07	0.03	0.06
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.25	39	387	0.05	0.02	0.04
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.25	34	330	0.06	0.02	0.05
Non-derivatized - MS/MS non-kit	0.59	12	116	0.76	0.09	0.76

Analyte: Tiglylcarnitine (C5:1) - Lot C2115 - Enrichment 1.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.83	6	60	0.25	0.13	0.21
Derivatized - MS/MS non-kit	0.92	39	384	0.29	0.10	0.27
Non-derivatized - MS/MS MassChrom® Chromsystems	0.60	8	80	0.19	0.08	0.18
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.72	39	387	0.15	0.06	0.14
Non-derivatized - MS/MS NeoBase™ 2 PerkinElmer	0.72	34	330	0.16	0.06	0.15
Non-derivatized - MS/MS non-kit	1.71	12	116	2.22	0.24	2.21

Analyte: Tiglylcarnitine (C5:1) - Lot D2115 - Enrichment 3

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	1.61	6	60	0.42	0.15	0.39
Derivatized - MS/MS non-kit	1.77	39	385	0.53	0.19	0.49
Non-derivatized - MS/MS MassChrom® Chromsystems	1.17	8	80	0.36	0.12	0.34
Non-derivatized - MS/MS NeoBase™ PerkinElmer	1.43	39	387	0.28	0.12	0.25
Non-derivatized - MS/MS NeoBase™ 2 PerkinElmer	1.43	34	330	0.34	0.14	0.31
Non-derivatized - MS/MS non-kit	3.53	12	116	4.74	0.53	4.71

Glutaryl carnitine (C5DC) ($\mu\text{mol/L}$ blood)

Analyte: Glutaryl carnitine (C5DC) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.04	9	89	0.03	0.02	0.03
Derivatized - MS/MS non-kit	0.02	39	388	0.02	0.01	0.02
Non-derivatized - MS/MS MassChrom® Chromsystems	0.06	10	94	0.03	0.01	0.02
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.04	5	50	0.01	0.01	0.01
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.04	38	377	0.02	0.01	0.02
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.03	34	319	0.02	0.01	0.02
Non-derivatized - MS/MS non-kit	0.04	17	166	0.02	0.01	0.02

Analyte: Glutaryl carnitine (C5DC) - Lot B2115 - Enrichment 0.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.66	9	89	0.14	0.08	0.11
Derivatized - MS/MS non-kit	0.30	39	389	0.15	0.05	0.14
Non-derivatized - MS/MS MassChrom® Chromsystems	0.61	10	94	0.13	0.05	0.12
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.50	5	50	0.05	0.03	0.04
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.53	38	376	0.08	0.05	0.07
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.43	35	342	0.08	0.04	0.07
Non-derivatized - MS/MS non-kit	0.50	17	166	0.16	0.06	0.14

Analyte: Glutarylcarnitine (C5DC) - Lot C2115 - Enrichment 1

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	1.31	9	90	0.26	0.17	0.20
Derivatized - MS/MS non-kit	0.59	39	390	0.28	0.09	0.27
Non-derivatized - MS/MS MassChrom® Chromsystems	1.16	10	94	0.26	0.12	0.23
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.96	5	50	0.11	0.05	0.09
Non-derivatized - MS/MS NeoBase™ PerkinElmer	1.00	38	376	0.14	0.07	0.12
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.83	35	343	0.14	0.06	0.12
Non-derivatized - MS/MS non-kit	0.98	17	166	0.26	0.09	0.25

Analyte: Glutarylcarnitine (C5DC) - Lot D2115 - Enrichment 2.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	3.12	9	90	0.60	0.35	0.49
Derivatized - MS/MS non-kit	1.42	39	390	0.68	0.20	0.65
Non-derivatized - MS/MS MassChrom® Chromsystems	2.69	10	94	0.64	0.24	0.59
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	2.24	5	50	0.27	0.09	0.25
Non-derivatized - MS/MS NeoBase™ PerkinElmer	2.41	38	376	0.35	0.19	0.29
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	2.03	35	344	0.37	0.17	0.33
Non-derivatized - MS/MS non-kit	2.35	17	166	0.66	0.19	0.63

3-Hydroxyisovalerylcarnitine (C5OH) (µmol/L blood)

Analyte: 3-Hydroxyisovalerylcarnitine (C5OH) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.36	7	68	0.12	0.05	0.11
Derivatized - MS/MS non-kit	0.34	41	409	0.11	0.05	0.10
Non-derivatized - MS/MS MassChrom® Chromsystems	0.31	6	60	0.06	0.03	0.05
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.57	5	50	0.06	0.04	0.04
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.41	35	350	0.10	0.04	0.09
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.48	31	306	0.10	0.04	0.09
Non-derivatized - MS/MS non-kit	0.51	15	148	0.11	0.05	0.10

Analyte: 3-Hydroxyisovalerylcarnitine (C5OH) - Lot B2115 - Enrichment 1

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	1.06	7	68	0.28	0.13	0.25
Derivatized - MS/MS non-kit	1.09	41	410	0.31	0.13	0.28
Non-derivatized - MS/MS MassChrom® Chromsystems	0.83	6	60	0.13	0.06	0.12
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	1.54	5	50	0.12	0.08	0.08
Non-derivatized - MS/MS NeoBase™ PerkinElmer	1.02	35	350	0.25	0.09	0.24
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	1.10	32	316	0.18	0.07	0.16
Non-derivatized - MS/MS non-kit	1.35	15	147	0.28	0.12	0.26

Analyte: 3-Hydroxyisovalerylcarnitine (C5OH) - Lot C2115 - Enrichment 2

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	1.80	7	68	0.49	0.23	0.43
Derivatized - MS/MS non-kit	1.89	41	410	0.51	0.18	0.48
Non-derivatized - MS/MS MassChrom® Chromsystems	1.34	6	60	0.29	0.12	0.26
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	2.51	5	50	0.19	0.12	0.15
Non-derivatized - MS/MS NeoBase™ PerkinElmer	1.58	35	350	0.38	0.12	0.36
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	1.73	32	316	0.29	0.12	0.26
Non-derivatized - MS/MS non-kit	2.23	15	148	0.47	0.18	0.44

Analyte: 3-Hydroxyisovalerylcarnitine (C5OH) - Lot D2115 - Enrichment 3

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	2.51	7	68	0.59	0.28	0.52
Derivatized - MS/MS non-kit	2.64	41	410	0.72	0.29	0.66
Non-derivatized - MS/MS MassChrom® Chromsystems	1.80	6	60	0.32	0.11	0.30
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3.44	5	50	0.32	0.19	0.26
Non-derivatized - MS/MS NeoBase™ PerkinElmer	2.18	35	349	0.55	0.15	0.52
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	2.32	32	316	0.42	0.19	0.37
Non-derivatized - MS/MS non-kit	3.10	15	148	0.72	0.33	0.64

Hexanoylcarnitine (C6) ($\mu\text{mol/L}$ blood)

Analyte: Hexanoylcarnitine (C6) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.04	8	80	0.02	0.01	0.01
Derivatized - MS/MS non-kit	0.03	40	395	0.03	0.02	0.03
Non-derivatized - MS/MS MassChrom® Chromsystems	0.01	9	90	0.01	0.00	0.01
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.01	5	50	0.00	0.00	0.00
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.01	42	416	0.01	0.01	0.01
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.01	34	328	0.01	0.00	0.00
Non-derivatized - MS/MS non-kit	0.02	14	136	0.02	0.01	0.02

Analyte: Hexanoylcarnitine (C6) - Lot B2115 - Enrichment 0.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.34	8	80	0.07	0.04	0.06
Derivatized - MS/MS non-kit	0.38	41	409	0.10	0.05	0.09
Non-derivatized - MS/MS MassChrom® Chromsystems	0.37	9	90	0.05	0.03	0.04
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.41	5	50	0.04	0.02	0.03
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.40	42	420	0.06	0.03	0.05
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.37	36	351	0.05	0.02	0.04
Non-derivatized - MS/MS non-kit	0.40	14	136	0.10	0.05	0.09

Analyte: Hexanoylcarnitine (C6) - Lot C2115 - Enrichment 1

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.63	8	80	0.11	0.07	0.09
Derivatized - MS/MS non-kit	0.76	41	408	0.21	0.11	0.18
Non-derivatized - MS/MS MassChrom® Chromsystems	0.72	9	90	0.09	0.05	0.08
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.80	5	50	0.10	0.04	0.09
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.77	42	420	0.10	0.05	0.08
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.70	36	352	0.09	0.04	0.08
Non-derivatized - MS/MS non-kit	0.81	14	136	0.22	0.08	0.21

Analyte: Hexanoylcarnitine (C6) - Lot D2115 - Enrichment 2.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	1.46	8	80	0.25	0.13	0.21
Derivatized - MS/MS non-kit	1.81	41	409	0.43	0.19	0.39
Non-derivatized - MS/MS MassChrom® Chromsystems	1.68	9	90	0.21	0.10	0.19
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	1.96	5	50	0.16	0.10	0.12
Non-derivatized - MS/MS NeoBase™ PerkinElmer	1.86	42	420	0.25	0.13	0.21
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	1.67	36	352	0.22	0.10	0.20
Non-derivatized - MS/MS non-kit	1.99	14	136	0.60	0.20	0.56

Octanoylcarnitine (C8) (µmol/L blood)

Analyte: Octanoylcarnitine (C8) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.02	9	90	0.01	0.01	0.01
Derivatized - MS/MS non-kit	0.02	40	394	0.02	0.01	0.02
Non-derivatized - MS/MS MassChrom® Chromsystems	0.02	14	140	0.01	0.00	0.01
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.02	5	50	0.01	0.00	0.00
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.02	44	439	0.01	0.01	0.01
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.02	37	361	0.01	0.01	0.01
Non-derivatized - MS/MS non-kit	0.04	17	166	0.05	0.03	0.04

Analyte: Octanoylcarnitine (C8) - Lot B2115 - Enrichment 0.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.37	9	90	0.07	0.04	0.05
Derivatized - MS/MS non-kit	0.50	41	405	0.14	0.07	0.13
Non-derivatized - MS/MS MassChrom® Chromsystems	0.45	14	140	0.07	0.03	0.07
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.48	5	50	0.04	0.03	0.03
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.47	44	440	0.07	0.04	0.05
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.43	39	383	0.05	0.03	0.05
Non-derivatized - MS/MS non-kit	0.51	18	174	0.20	0.06	0.19

Analyte: Octanoylcarnitine (C8) - Lot C2115 - Enrichment 1

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.76	9	90	0.16	0.10	0.12
Derivatized - MS/MS non-kit	1.01	41	404	0.29	0.15	0.25
Non-derivatized - MS/MS MassChrom® Chromsystems	0.89	14	140	0.14	0.06	0.13
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.96	5	50	0.08	0.06	0.06
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.92	44	440	0.13	0.07	0.11
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.85	39	384	0.12	0.06	0.10
Non-derivatized - MS/MS non-kit	0.99	18	171	0.29	0.10	0.28

Analyte: Octanoylcarnitine (C8) - Lot D2115 - Enrichment 2.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	1.79	9	90	0.29	0.15	0.25
Derivatized - MS/MS non-kit	2.39	41	406	0.59	0.27	0.52
Non-derivatized - MS/MS MassChrom® Chromsystems	2.11	14	140	0.34	0.12	0.32
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	2.32	5	50	0.21	0.13	0.16
Non-derivatized - MS/MS NeoBase™ PerkinElmer	2.26	44	440	0.29	0.16	0.24
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	2.08	39	384	0.28	0.15	0.24
Non-derivatized - MS/MS non-kit	2.48	18	172	0.82	0.22	0.79

Decanoylcarnitine (C10) (µmol/L blood)

Analyte: Decanoylcarnitine (C10) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.02	8	80	0.01	0.01	0.01
Derivatized - MS/MS non-kit	0.03	41	400	0.03	0.02	0.03
Non-derivatized - MS/MS MassChrom® Chromsystems	0.02	14	139	0.01	0.01	0.01
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.02	5	50	0.01	0.00	0.01
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.03	44	432	0.01	0.01	0.01
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.02	38	374	0.01	0.00	0.01
Non-derivatized - MS/MS non-kit	0.04	16	156	0.04	0.03	0.04

Analyte: Decanoylcarnitine (C10) - Lot B2115 - Enrichment 0.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.29	8	80	0.07	0.03	0.06
Derivatized - MS/MS non-kit	0.41	41	402	0.17	0.09	0.15
Non-derivatized - MS/MS MassChrom® Chromsystems	0.37	14	139	0.06	0.03	0.05
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.39	5	50	0.04	0.03	0.03
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.38	44	439	0.06	0.03	0.05
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.36	38	374	0.05	0.03	0.04
Non-derivatized - MS/MS non-kit	0.47	16	156	0.12	0.06	0.11

Analyte: Decanoylcarnitine (C10) - Lot C2115 - Enrichment 1

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.57	8	79	0.12	0.06	0.10
Derivatized - MS/MS non-kit	0.86	41	401	0.28	0.14	0.24
Non-derivatized - MS/MS MassChrom® Chromsystems	0.75	14	139	0.12	0.05	0.11
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.81	5	50	0.08	0.05	0.06
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.77	44	440	0.11	0.06	0.10
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.72	38	374	0.10	0.05	0.09
Non-derivatized - MS/MS non-kit	0.93	16	156	0.22	0.09	0.20

Analyte: Decanoylcarnitine (C10) - Lot D2115 - Enrichment 2.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	1.46	8	80	0.34	0.16	0.30
Derivatized - MS/MS non-kit	2.15	41	402	0.63	0.29	0.56
Non-derivatized - MS/MS MassChrom® Chromsystems	1.86	14	139	0.27	0.11	0.25
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	2.04	5	50	0.24	0.14	0.20
Non-derivatized - MS/MS NeoBase™ PerkinElmer	1.93	44	438	0.27	0.16	0.22
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	1.86	38	374	0.28	0.16	0.23
Non-derivatized - MS/MS non-kit	2.34	16	156	0.52	0.23	0.47

Dodecanoylcarnitine (C12) (µmol/L blood)

Analyte: Dodecanoylcarnitine (C12) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.05	8	80	0.04	0.02	0.04
Derivatized - MS/MS non-kit	0.03	38	370	0.03	0.02	0.03
Non-derivatized - MS/MS MassChrom® Chromsystems	0.02	10	99	0.01	0.01	0.01
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.01	5	50	0.01	0.00	0.01
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.02	40	397	0.01	0.01	0.01
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.01	35	342	0.01	0.00	0.00
Non-derivatized - MS/MS non-kit	0.03	15	146	0.03	0.01	0.03

Analyte: Dodecanoylcarnitine (C12) - Lot B2115 - Enrichment 1

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.89	8	80	0.25	0.11	0.22
Derivatized - MS/MS non-kit	0.93	38	378	0.29	0.11	0.27
Non-derivatized - MS/MS MassChrom® Chromsystems	0.86	10	100	0.17	0.10	0.14
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	1.04	5	50	0.12	0.08	0.10
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.93	40	400	0.13	0.08	0.10
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.86	35	344	0.12	0.06	0.11
Non-derivatized - MS/MS non-kit	0.98	15	146	0.37	0.10	0.36

Analyte: Dodecanoylcarnitine (C12) - Lot C2115 - Enrichment 2

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	1.80	8	80	0.56	0.29	0.48
Derivatized - MS/MS non-kit	1.90	38	375	0.54	0.23	0.49
Non-derivatized - MS/MS MassChrom® Chromsystems	1.76	10	100	0.37	0.22	0.30
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	2.16	5	50	0.23	0.14	0.19
Non-derivatized - MS/MS NeoBase™ PerkinElmer	1.88	40	400	0.24	0.14	0.20
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	1.76	35	344	0.25	0.12	0.22
Non-derivatized - MS/MS non-kit	2.02	15	146	0.79	0.20	0.76

Analyte: Dodecanoylcarnitine (C12) - Lot D2115 - Enrichment 3

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	2.70	8	80	0.63	0.29	0.56
Derivatized - MS/MS non-kit	2.83	38	378	0.80	0.32	0.74
Non-derivatized - MS/MS MassChrom® Chromsystems	2.52	10	100	0.51	0.30	0.41
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3.14	5	50	0.32	0.21	0.24
Non-derivatized - MS/MS NeoBase™ PerkinElmer	2.80	40	400	0.36	0.21	0.29
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	2.60	35	344	0.38	0.19	0.33
Non-derivatized - MS/MS non-kit	3.03	15	146	1.25	0.32	1.21

Myristoylcarnitine (C14) (µmol/L blood)

Analyte: Myristoylcarnitine (C14) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.06	8	80	0.03	0.01	0.03
Derivatized - MS/MS non-kit	0.06	41	402	0.07	0.05	0.05
Non-derivatized - MS/MS MassChrom® Chromsystems	0.04	10	99	0.03	0.02	0.02
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.04	5	50	0.01	0.01	0.01
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.04	44	439	0.02	0.01	0.01
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.04	36	347	0.01	0.00	0.01
Non-derivatized - MS/MS non-kit	0.05	15	146	0.03	0.01	0.02

Analyte: Myristoylcarnitine (C14) - Lot B2115 - Enrichment 0.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.41	8	80	0.08	0.05	0.07
Derivatized - MS/MS non-kit	0.46	41	402	0.11	0.06	0.10
Non-derivatized - MS/MS MassChrom® Chromsystems	0.42	10	100	0.08	0.04	0.07
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.46	5	50	0.05	0.03	0.04
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.44	44	438	0.06	0.04	0.05
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.42	36	351	0.06	0.03	0.05
Non-derivatized - MS/MS non-kit	0.48	15	146	0.10	0.06	0.08

Analyte: Myristoylcarnitine (C14) - Lot C2115 - Enrichment 1.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	1.18	8	80	0.23	0.14	0.17
Derivatized - MS/MS non-kit	1.39	41	402	0.31	0.17	0.27
Non-derivatized - MS/MS MassChrom® Chromsystems	1.23	10	100	0.30	0.17	0.24
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	1.39	5	50	0.12	0.08	0.09
Non-derivatized - MS/MS NeoBase™ PerkinElmer	1.31	44	438	0.17	0.11	0.13
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	1.26	36	351	0.18	0.09	0.15
Non-derivatized - MS/MS non-kit	1.41	15	146	0.26	0.14	0.22

Analyte: Myristoylcarnitine (C14) - Lot D2115 - Enrichment 3

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	2.29	8	80	0.36	0.19	0.30
Derivatized - MS/MS non-kit	2.71	41	402	0.58	0.31	0.48
Non-derivatized - MS/MS MassChrom® Chromsystems	2.33	10	100	0.53	0.32	0.42
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	2.70	5	50	0.33	0.20	0.26
Non-derivatized - MS/MS NeoBase™ PerkinElmer	2.60	44	438	0.33	0.21	0.26
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	2.52	36	351	0.35	0.18	0.29
Non-derivatized - MS/MS non-kit	2.78	15	146	0.50	0.26	0.43

Tetradecenoylcarnitine (C14:1) (µmol/L blood)

Analyte: Tetradecenoylcarnitine (C14:1) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.03	6	60	0.02	0.01	0.02
Derivatized - MS/MS non-kit	0.03	39	379	0.02	0.01	0.02
Non-derivatized - MS/MS MassChrom® Chromsystems	0.02	8	80	0.01	0.00	0.01
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.02	42	418	0.02	0.01	0.01
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.02	36	350	0.01	0.00	0.01
Non-derivatized - MS/MS non-kit	0.02	14	136	0.01	0.01	0.01

Analyte: Tetradecenoylcarnitine (C14:1) - Lot B2115 - Enrichment 0.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.20	6	60	0.07	0.04	0.06
Derivatized - MS/MS non-kit	0.23	39	388	0.07	0.04	0.06
Non-derivatized - MS/MS MassChrom® Chromsystems	0.18	8	80	0.05	0.02	0.05
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.21	42	418	0.04	0.02	0.03
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.21	37	364	0.04	0.02	0.03
Non-derivatized - MS/MS non-kit	0.25	14	136	0.06	0.03	0.05

Analyte: Tetradecenoylcarnitine (C14:1) - Lot C2115 - Enrichment 1.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.58	6	60	0.21	0.11	0.18
Derivatized - MS/MS non-kit	0.73	39	387	0.19	0.09	0.16
Non-derivatized - MS/MS MassChrom® Chromsystems	0.56	8	80	0.16	0.06	0.15
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.65	42	419	0.11	0.06	0.09
Non-derivatized - MS/MS NeoBase™ 2 PerkinElmer	0.65	37	364	0.10	0.05	0.09
Non-derivatized - MS/MS non-kit	0.76	14	136	0.17	0.08	0.15

Analyte: Tetradecenoylcarnitine (C14:1) - Lot D2115 - Enrichment 3

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	1.16	6	60	0.40	0.18	0.36
Derivatized - MS/MS non-kit	1.48	39	388	0.37	0.19	0.32
Non-derivatized - MS/MS MassChrom® Chromsystems	1.11	8	80	0.30	0.11	0.28
Non-derivatized - MS/MS NeoBase™ PerkinElmer	1.32	42	418	0.21	0.11	0.17
Non-derivatized - MS/MS NeoBase™ 2 PerkinElmer	1.33	37	364	0.21	0.11	0.18
Non-derivatized - MS/MS non-kit	1.57	14	136	0.39	0.17	0.35

Palmitoylcarnitine (C16) (µmol/L blood)

Analyte: Palmitoylcarnitine (C16) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.61	8	80	0.11	0.07	0.09
Derivatized - MS/MS non-kit	0.67	41	406	0.15	0.08	0.13
Non-derivatized - MS/MS MassChrom® Chromsystems	0.54	9	90	0.08	0.04	0.07
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.67	5	50	0.09	0.05	0.08
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.65	43	428	0.12	0.07	0.10
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.73	37	364	0.11	0.06	0.09
Non-derivatized - MS/MS non-kit	0.65	16	156	0.10	0.06	0.08

Analyte: Palmitoylcarnitine (C16) - Lot B2115 - Enrichment 4

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	3.47	8	80	0.64	0.35	0.54
Derivatized - MS/MS non-kit	3.65	41	409	0.80	0.47	0.65
Non-derivatized - MS/MS MassChrom® Chromsystems	3.29	9	90	0.48	0.23	0.42
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	3.82	5	50	0.40	0.26	0.31
Non-derivatized - MS/MS NeoBase™ PerkinElmer	3.65	43	430	0.50	0.28	0.42
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	4.14	38	374	0.55	0.31	0.45
Non-derivatized - MS/MS non-kit	3.70	16	156	0.51	0.32	0.39

Analyte: Palmitoylcarnitine (C16) - Lot C2115 - Enrichment 8

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	6.41	8	80	1.32	0.86	1.01
Derivatized - MS/MS non-kit	6.78	41	406	1.21	0.62	1.04
Non-derivatized - MS/MS MassChrom® Chromsystems	5.98	9	90	0.90	0.45	0.78
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	7.11	5	50	0.74	0.43	0.60
Non-derivatized - MS/MS NeoBase™ PerkinElmer	6.67	43	430	0.86	0.48	0.72
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	7.54	38	374	1.06	0.58	0.89
Non-derivatized - MS/MS non-kit	6.85	16	156	1.05	0.60	0.87

Analyte: Palmitoylcarnitine (C16) - Lot D2115 - Enrichment 12

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	9.21	8	80	1.54	0.89	1.26
Derivatized - MS/MS non-kit	9.91	41	408	1.80	0.98	1.51
Non-derivatized - MS/MS MassChrom® Chromsystems	8.62	9	90	1.23	0.57	1.09
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	10.34	5	50	1.16	0.74	0.89
Non-derivatized - MS/MS NeoBase™ PerkinElmer	9.87	43	430	1.31	0.75	1.08
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	11.13	38	374	1.56	0.87	1.29
Non-derivatized - MS/MS non-kit	10.00	16	156	1.73	0.94	1.45

3-Hydroxypalmitoylcarnitine (C16OH) (µmol/L blood)

Analyte: 3-Hydroxypalmitoylcarnitine (C16OH) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.01	7	67	0.01	0.01	0.01
Derivatized - MS/MS non-kit	0.02	40	388	0.02	0.01	0.02
Non-derivatized - MS/MS MassChrom® Chromsystems	0.00	8	80	0.01	0.00	0.01
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.00	5	50	0.01	0.00	0.00
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.01	43	429	0.01	0.00	0.01
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.01	35	344	0.01	0.00	0.01
Non-derivatized - MS/MS non-kit	0.01	15	147	0.01	0.00	0.01

Analyte: 3-Hydroxypalmitoylcarnitine (C16OH) - Lot B2115 - Enrichment 0.25

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.17	7	70	0.04	0.03	0.03
Derivatized - MS/MS non-kit	0.20	40	400	0.09	0.05	0.08
Non-derivatized - MS/MS MassChrom® Chromsystems	0.14	9	90	0.06	0.02	0.06
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.16	5	50	0.03	0.01	0.02
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.16	43	430	0.04	0.01	0.03
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.17	39	384	0.04	0.01	0.03
Non-derivatized - MS/MS non-kit	0.19	15	147	0.07	0.03	0.06

Analyte: 3-Hydroxypalmitoylcarnitine (C16OH) - Lot C2115 - Enrichment 1

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.67	7	70	0.15	0.08	0.13
Derivatized - MS/MS non-kit	0.75	40	400	0.28	0.13	0.25
Non-derivatized - MS/MS MassChrom® Chromsystems	0.57	9	90	0.27	0.10	0.25
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.65	5	50	0.09	0.05	0.08
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.62	43	430	0.13	0.05	0.12
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.65	39	386	0.14	0.05	0.13
Non-derivatized - MS/MS non-kit	0.77	15	147	0.24	0.08	0.23

Analyte: 3-Hydroxypalmitoylcarnitine (C16OH) - Lot D2115 - Enrichment 1.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.95	7	70	0.25	0.13	0.21
Derivatized - MS/MS non-kit	1.11	40	400	0.40	0.18	0.35
Non-derivatized - MS/MS MassChrom® Chromsystems	0.81	9	90	0.38	0.12	0.36
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.94	5	50	0.12	0.07	0.10
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.91	43	430	0.18	0.07	0.17
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.97	39	386	0.21	0.07	0.20
Non-derivatized - MS/MS non-kit	1.12	15	147	0.39	0.16	0.35

Stearoylcarnitine (C18) (µmol/L blood)

Analyte: Stearoylcarnitine (C18) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.49	8	80	0.13	0.08	0.10
Derivatized - MS/MS non-kit	0.48	39	386	0.13	0.07	0.11
Non-derivatized - MS/MS MassChrom® Chromsystems	0.49	9	90	0.12	0.04	0.11
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	0.46	5	50	0.05	0.04	0.04
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.47	42	420	0.07	0.05	0.06
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.48	34	334	0.06	0.04	0.05
Non-derivatized - MS/MS non-kit	0.47	15	146	0.09	0.05	0.08

Analyte: Stearoylcarnitine (C18) - Lot B2115 - Enrichment 1

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	1.21	8	80	0.28	0.18	0.21
Derivatized - MS/MS non-kit	1.18	39	386	0.26	0.13	0.22
Non-derivatized - MS/MS MassChrom® Chromsystems	1.33	9	90	0.32	0.10	0.31
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	1.21	5	50	0.11	0.08	0.08
Non-derivatized - MS/MS NeoBase™ PerkinElmer	1.24	42	420	0.17	0.11	0.13
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	1.26	35	344	0.18	0.11	0.15
Non-derivatized - MS/MS non-kit	1.22	15	146	0.23	0.13	0.19

Analyte: Stearoylcarnitine (C18) - Lot C2115 - Enrichment 3

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	2.74	8	80	0.56	0.36	0.43
Derivatized - MS/MS non-kit	2.68	39	386	0.59	0.33	0.49
Non-derivatized - MS/MS MassChrom® Chromsystems	3.02	9	90	0.82	0.29	0.77
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	2.78	5	50	0.24	0.16	0.19
Non-derivatized - MS/MS NeoBase™ PerkinElmer	2.82	42	420	0.36	0.22	0.28
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	2.87	35	344	0.37	0.19	0.31
Non-derivatized - MS/MS non-kit	2.83	15	146	0.54	0.28	0.47

Analyte: Stearoylcarnitine (C18) - Lot D2115 - Enrichment 5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	4.19	8	80	0.77	0.47	0.61
Derivatized - MS/MS non-kit	4.14	39	386	0.89	0.43	0.78
Non-derivatized - MS/MS MassChrom® Chromsystems	4.51	9	90	1.12	0.34	1.07
Non-derivatized - MS/MS MS2 Screening Neo (MS-Neo)Siemens	4.28	5	50	0.44	0.29	0.33
Non-derivatized - MS/MS NeoBase™ PerkinElmer	4.41	42	420	0.51	0.32	0.40
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	4.50	35	344	0.58	0.31	0.48
Non-derivatized - MS/MS non-kit	4.37	15	146	0.88	0.40	0.79

Hydroxystearoylcarnitine (C18OH) (µmol/L blood)

Analyte: Hydroxystearoylcarnitine (C18OH) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.01	6	57	0.01	0.01	0.01
Derivatized - MS/MS non-kit	0.01	29	280	0.02	0.01	0.01
Non-derivatized - MS/MS MassChrom® Chromsystems	0.00	8	80	0.01	0.00	0.00
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.00	41	409	0.01	0.00	0.00
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.00	31	291	0.00	0.00	0.00
Non-derivatized - MS/MS non-kit	0.01	9	86	0.01	0.00	0.01

Analyte: Hydroxystearoylcarnitine (C18OH) - Lot B2115 - Enrichment 0.25

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.16	6	60	0.05	0.03	0.04
Derivatized - MS/MS non-kit	0.16	29	290	0.06	0.03	0.06
Non-derivatized - MS/MS MassChrom® Chromsystems	0.13	8	80	0.04	0.02	0.04
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.13	41	409	0.03	0.01	0.02
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.13	35	344	0.03	0.01	0.02
Non-derivatized - MS/MS non-kit	0.16	9	86	0.11	0.03	0.10

Analyte: Hydroxystearoylcarnitine (C18OH) - Lot C2115 - Enrichment 1

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.63	6	60	0.14	0.09	0.11
Derivatized - MS/MS non-kit	0.62	29	290	0.26	0.09	0.25
Non-derivatized - MS/MS MassChrom® Chromsystems	0.52	8	80	0.17	0.07	0.16
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.52	41	409	0.09	0.05	0.08
Non-derivatized - MS/MS NeoBase™ 2 PerkinElmer	0.52	35	340	0.08	0.04	0.07
Non-derivatized - MS/MS non-kit	0.67	9	86	0.43	0.09	0.42

Analyte: Hydroxystearoylcarnitine (C18OH) - Lot D2115 - Enrichment 1.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Derivatized - MS/MS MassChrom® Chromsystems	0.90	6	60	0.17	0.11	0.13
Derivatized - MS/MS non-kit	0.92	29	290	0.37	0.12	0.35
Non-derivatized - MS/MS MassChrom® Chromsystems	0.73	8	80	0.23	0.08	0.22
Non-derivatized - MS/MS NeoBase™ PerkinElmer	0.76	41	410	0.12	0.06	0.10
Non-derivatized - MS/MS NeoBase™ 2 PerkinElmer	0.77	35	339	0.13	0.06	0.11
Non-derivatized - MS/MS non-kit	0.97	9	86	0.67	0.13	0.66

20:0-Lysophosphatidylcholine (C20-LPC) (µmol/L blood)

Analyte: 20:0-Lysophosphatidylcholine (C20-LPC) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.1	19	180	0.05	0.03	0.04

Analyte: 20:0-Lysophosphatidylcholine (C20-LPC) - Lot B2115 - Enrichment 0.25

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.31	19	180	0.11	0.06	0.09

Analyte: 20:0-Lysophosphatidylcholine (C20-LPC) - Lot C2115 - Enrichment 0.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.54	19	179	0.18	0.08	0.16

Analyte: 20:0-Lysophosphatidylcholine (C20-LPC) - Lot D2115 - Enrichment 2

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	1.92	19	180	0.55	0.21	0.51

22:0-Lysophosphatidylcholine (C22-LPC) (µmol/L blood)

Analyte: 22:0-Lysophosphatidylcholine (C22-LPC) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.06	19	188	0.04	0.02	0.03

Analyte: 22:0-Lysophosphatidylcholine (C22-LPC) - Lot B2115 - Enrichment 0.25

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.24	19	187	0.07	0.04	0.06

Analyte: 22:0-Lysophosphatidylcholine (C22-LPC) - Lot C2115 - Enrichment 0.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.43	19	188	0.14	0.08	0.11

Analyte: 22:0-Lysophosphatidylcholine (C22-LPC) - Lot D2115 - Enrichment 2

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	1.61	19	188	0.38	0.2	0.32

24:0-Lysophosphatidylcholine (C24-LPC) (µmol/L blood)

Analyte: 24:0-Lysophosphatidylcholine (C24-LPC) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.13	24	236	0.06	0.03	0.05

Analyte: 24:0-Lysophosphatidylcholine (C24-LPC) - Lot B2115 - Enrichment 0.25

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.35	24	235	0.11	0.07	0.08

Analyte: 24:0-Lysophosphatidylcholine (C24-LPC) - Lot C2115 - Enrichment 0.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.58	24	235	0.16	0.09	0.13

Analyte: 24:0-Lysophosphatidylcholine (C24-LPC) - Lot D2115 - Enrichment 2

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	2.02	24	236	0.43	0.23	0.37

26:0-Lysophosphatidylcholine (C26-LPC) (µmol/L blood)

Analyte: 26:0-Lysophosphatidylcholine (C26-LPC) - Lot A2115 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.12	28	274	0.09	0.04	0.08
LC-MS/MS negative ion mode	0.01	7	70	0.01	0.01	0.01

Analyte: 26:0-Lysophosphatidylcholine (C26-LPC) - Lot B2115 - Enrichment 0.25

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.31	28	274	0.12	0.07	0.10
LC-MS/MS negative ion mode	0.18	8	80	0.04	0.02	0.03

Analyte: 26:0-Lysophosphatidylcholine (C26-LPC) - Lot C2115 - Enrichment 0.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	0.51	28	273	0.23	0.13	0.18
LC-MS/MS negative ion mode	0.35	8	80	0.07	0.03	0.06

Analyte: 26:0-Lysophosphatidylcholine (C26-LPC) - Lot D2115 - Enrichment 2

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Non-derivatized - MS/MS NeoBase™2 PerkinElmer	1.82	28	274	0.38	0.22	0.31
LC-MS/MS negative ion mode	1.50	8	80	0.27	0.13	0.23

Galactosylceramidase (GALC) ($\mu\text{mol/hr/L}$ blood)

Analyte: Galactosylceramidase (GALC) - Lot A2108 - Mean Activity 0.25

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit PerkinElmer	0.18	11	102	0.1	0.07	0.08

Analyte: Galactosylceramidase (GALC) - Lot B2108 - Mean Activity 0.57

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit PerkinElmer	0.45	12	110	0.16	0.1	0.12

Analyte: Galactosylceramidase (GALC) - Lot C2108 - Mean Activity 3.47

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit PerkinElmer	2.84	12	112	0.35	0.21	0.28

Analyte: Galactosylceramidase (GALC) - Lot D2108 - Mean Activity 6.44

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit PerkinElmer	5.25	12	112	0.73	0.46	0.56

Acid a-Glucosidase (GAA) ($\mu\text{mol/hr/L}$ blood)

Analyte: Acid a-Glucosidase (GAA) - Lot A2108 - Mean Activity 0.19

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Flow Injection Analysis (FIA)-MS/MS multiplexed enzyme reaction	0.17	5	45	0.14	0.07	0.12
NeoLSD™ MSMS Kit PerkinElmer	0.14	19	176	0.10	0.06	0.08

Analyte: Acid a-Glucosidase (GAA) - Lot B2108 - Mean Activity 0.81

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Flow Injection Analysis (FIA)-MS/MS multiplexed enzyme reaction	0.63	5	50	0.26	0.17	0.20
NeoLSD™ MSMS Kit PerkinElmer	0.69	20	190	0.26	0.14	0.21

Analyte: Acid a-Glucosidase (GAA) - Lot C2108 - Mean Activity 5.7

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Flow Injection Analysis (FIA)-MS/MS multiplexed enzyme reaction	4.47	5	50	1.40	0.89	1.08
NeoLSD™ MSMS Kit PerkinElmer	4.82	20	192	0.94	0.61	0.72

Analyte: Acid a-Glucosidase (GAA) - Lot D2108 - Mean Activity 7.92

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Flow Injection Analysis (FIA)-MS/MS multiplexed enzyme reaction	6.23	5	50	0.90	0.54	0.72
NeoLSD™ MSMS Kit PerkinElmer	7.08	20	191	1.13	0.74	0.86

Acid a-Glucosidase (GAA) ($\mu\text{mol/hr/L}$ blood)

Analyte: Acid a-Glucosidase (GAA) - Lot A2108 - Mean Activity 1.40

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Digital Microfluidic Fluorescence	1.43	5	49	0.63	0.37	0.51

Analyte: Acid a-Glucosidase (GAA) - Lot B2108 - Mean Activity 1.93

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Digital Microfluidic Fluorescence	3.07	8	77	0.92	0.61	0.68

Analyte: Acid a-Glucosidase (GAA) - Lot C2108 - Mean Activity 14.02

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Digital Microfluidic Fluorescence	15.13	8	79	2.99	1.93	2.28

Analyte: Acid a-Glucosidase (GAA) - Lot D2108 - Mean Activity 23.38

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Digital Microfluidic Fluorescence	23.24	8	80	3.91	2.47	3.03

Analyte: Acid a-Glucosidase (GAA) - Lot C2108 – (Lots A2108 and B2108 – insufficient data)

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Fluorometric manual LSD - non-kit	7.05	5	50	8.06	1.33	7.95

Analyte: Acid a-Glucosidase (GAA) - Lot D2108 - Mean Activity 23.38

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Fluorometric manual LSD - non-kit	12.09	5	50	12.74	1.80	12.61

a-L- Iduronidase (IDUA) ($\mu\text{mol/hr/L}$ blood)

Analyte: a-L- Iduronidase (IDUA) - Lot A2108 - Mean Activity 0.12

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Flow Injection Analysis (FIA)-MS/MS multiplexed enzyme reaction	0.16	5	49	0.12	0.05	0.11
NeoLSD™ MSMS Kit PerkinElmer	0.09	19	177	0.06	0.04	0.05

Analyte: a-L- Iduronidase (IDUA) - Lot B2108 - Mean Activity 0.62

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Flow Injection Analysis (FIA)-MS/MS multiplexed enzyme reaction	0.55	5	50	0.14	0.07	0.12
NeoLSD™ MSMS Kit PerkinElmer	0.49	21	198	0.13	0.08	0.10

Analyte: a-L- Iduronidase (IDUA) - Lot C2108 - Mean Activity 4.98

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Flow Injection Analysis (FIA)-MS/MS multiplexed enzyme reaction	4.23	5	50	0.96	0.62	0.74
NeoLSD™ MSMS Kit PerkinElmer	3.96	21	199	0.78	0.47	0.63

Analyte: a-L- Iduronidase (IDUA) - Lot D2108 - Mean Activity 8.47

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Flow Injection Analysis (FIA)-MS/MS multiplexed enzyme reaction	7.15	5	50	0.96	0.54	0.80
NeoLSD™ MSMS Kit PerkinElmer	6.93	21	199	1.28	0.73	1.05

a-L- Iduronidase (IDUA) ($\mu\text{mol/hr/L}$ blood)

Analyte: a-L- Iduronidase (IDUA) - Lot A2108 - Mean Activity 1.93

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Digital Microfluidic Fluorescence	2.20	6	51	0.52	0.30	0.43

Analyte: a-L- Iduronidase (IDUA) - Lot B2108 - Mean Activity 2.76

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Digital Microfluidic Fluorescence	3.16	8	77	0.67	0.46	0.48

Analyte: a-L- Iduronidase (IDUA) - Lot C2108 - Mean Activity 12.09

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Digital Microfluidic Fluorescence	12.90	8	80	1.44	0.99	1.05

Analyte: a-L- Iduronidase (IDUA) - Lot D2108 - Mean Activity 22.86

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Digital Microfluidic Fluorescence	24.10	8	80	2.81	1.89	2.07

a-Galactosidase (GLA) ($\mu\text{mol/hr/L}$ blood)

Analyte: a-Galactosidase (GLA) - Lot A2108 - Mean Activity 1.57

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit PerkinElmer	0.91	13	120	0.34	0.16	0.3

Analyte: a-Galactosidase (GLA) - Lot B2108 - Mean Activity 2.54

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit PerkinElmer	1.73	14	131	0.48	0.21	0.43

Analyte: a-Galactosidase (GLA) - Lot C2108 - Mean Activity 11.03

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Fluorometric manual LSD - non-kit	7.38	5	50	4.61	0.70	4.55
NeoLSD™ MSMS Kit PerkinElmer	9.06	14	132	2.24	0.78	2.10

Analyte: a-Galactosidase (GLA) - Lot D2108 - Mean Activity 19.86

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Fluorometric manual LSD - non-kit	14.63	5	50	8.91	1.41	8.79
NeoLSD™ MSMS Kit PerkinElmer	16.24	14	132	3.43	1.08	3.25

Analyte: a-Galactosidase (GLA) - Lot A2108 - Mean Activity 1.57

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit PerkinElmer	0.91	13	120	0.34	0.16	0.3

Analyte: a-Galactosidase (GLA) - Lot B2108 - Mean Activity 2.54

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit PerkinElmer	1.73	14	131	0.48	0.21	0.43

Analyte: a-Galactosidase (GLA) - Lot C2108 - Mean Activity 11.03

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit PerkinElmer	9.06	14	132	2.24	0.78	2.10

Analyte: a-Galactosidase (GLA) - Lot D2108 - Mean Activity 19.86

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit PerkinElmer	16.24	14	132	3.43	1.08	3.25

a-Galactosidase (GLA) ($\mu\text{mol/hr/L}$ blood)

Analyte: a-Galactosidase (GLA) - Lot C2108 (Lots A2108 and B2108 – insufficient data)

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Fluorometric manual LSD - non-kit	7.38	5	50	4.61	0.70	4.55

Analyte: a-Galactosidase (GLA) - Lot D2108

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
Fluorometric manual LSD - non-kit	14.63	5	50	8.91	1.41	8.79

β-Glucoerebrosidase (ABG) (μmol/hr/L blood)

Analyte: β-Glucoerebrosidase (ABG) - Lot A2108 - Mean Activity 0.68

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit PerkinElmer	0.57	14	130	0.31	0.14	0.28

Analyte: β-Glucoerebrosidase (ABG) - Lot B2108 - Mean Activity 1.23

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit PerkinElmer	0.92	14	132	0.4	0.21	0.34

Analyte: β-Glucoerebrosidase (ABG) - Lot C2108 - Mean Activity 6.15

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit PerkinElmer	4.01	14	132	1.25	0.62	1.09

Analyte: β-Glucoerebrosidase (ABG) - Lot D2108 - Mean Activity 11.68

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit PerkinElmer	7.11	14	132	2.01	0.9	1.8

Acid Sphingomyelinase (ASM) ($\mu\text{mol/hr/L}$ blood)

Analyte: Acid Sphingomyelinase (ASM) - Lot A2108 - Mean Activity 0.17

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit PerkinElmer	0.05	11	97	0.05	0.03	0.04

Analyte: Acid Sphingomyelinase (ASM) - Lot B2108 - Mean Activity 0.31

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit PerkinElmer	0.16	12	101	0.15	0.1	0.1

Analyte: Acid Sphingomyelinase (ASM) - Lot C2108 - Mean Activity 1.46

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit PerkinElmer	1.01	12	112	0.27	0.16	0.21

Analyte: Acid Sphingomyelinase (ASM) - Lot D2108 - Mean Activity 2.75

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit PerkinElmer	1.8	12	112	0.4	0.24	0.32

17 a-Hydroxyprogesterone (17OHP2) (ng/mL serum)

Analyte: 17 a-Hydroxyprogesterone (17OHP2) - Lot A2111 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	0.83	16	122	1.23	0.4	1.17

Analyte: 17 a-Hydroxyprogesterone (17OHP2) - Lot B2111 - Enrichment 10

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	9.08	20	190	2.07	0.83	1.89

Analyte: 17 a-Hydroxyprogesterone (17OHP2) - Lot C2111 - Enrichment 50

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	49.91	20	192	10.59	3.78	9.89

Analyte: 17 a-Hydroxyprogesterone (17OHP2) - Lot D2111 - Enrichment 100

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	99.47	20	190	22.57	8.34	20.98

Analyte: 17 a-Hydroxyprogesterone (17OHP2) - Lot E2111 - Enrichment 500

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	492.4	20	192	102.23	40.57	93.84

4-Androstenedione (4AD2) (ng/mL serum)

Analyte: 4-Androstenedione (4AD2) - Lot A2111 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	0.93	15	113	1.6	0.39	1.55

Analyte: 4-Androstenedione (4AD2) - Lot B2111 - Enrichment 10

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	11.04	19	184	3.17	1.05	2.99

Analyte: 4-Androstenedione (4AD2) - Lot C2111 - Enrichment 50

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	52.67	19	184	15.43	4.96	14.61

Analyte: 4-Androstenedione (4AD2) - Lot D2111 - Enrichment 100

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	104.01	19	184	29.66	9.04	28.25

Analyte: 4-Androstenedione (4AD2) - Lot E2111 - Enrichment 500

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	513.27	19	184	154.52	53.5	144.96

Cortisol (CORT2) (ng/mL serum)

Analyte: Cortisol (CORT2) - Lot A2111 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	2.16	16	122	2.09	0.95	1.86

Analyte: Cortisol (CORT2) - Lot B2111 - Enrichment 10

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	11.88	20	189	4.41	2.27	3.78

Analyte: Cortisol (CORT2) - Lot C2111 - Enrichment 50

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	47.52	20	187	11.89	4.91	10.82

Analyte: Cortisol (CORT2) - Lot D2111 - Enrichment 100

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	97.45	20	188	24.59	8.09	23.22

Analyte: Cortisol (CORT2) - Lot E2111 - Enrichment 500

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	491.53	20	187	115.64	39.21	108.79

11-Deoxycortisol (11D2) (ng/mL serum)

Analyte: 11-Deoxycortisol (11D2) - Lot A2111 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	1.95	12	108	3.84	1.1	3.67

Analyte: 11-Deoxycortisol (11D2) - Lot B2111 - Enrichment 10

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	12.32	15	148	4.35	1.58	4.06

Analyte: 11-Deoxycortisol (11D2) - Lot C2111 - Enrichment 50

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	55.37	15	148	13.2	4.34	12.47

Analyte: 11-Deoxycortisol (11D2) - Lot D2111 - Enrichment 100

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	107.8	15	148	27.89	10.16	25.97

Analyte: 11-Deoxycortisol (11D2) - Lot E2111 - Enrichment 500

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	502.22	15	148	145.15	47.18	137.27

21-Deoxycortisol (21D2) (ng/mL serum)

Analyte: 21-Deoxycortisol (21D2) - Lot A2111 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	2.08	14	105	6.16	2.31	5.71

Analyte: 21-Deoxycortisol (21D2) - Lot B2111 - Enrichment 10

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	11.75	16	156	5.96	2.31	5.49

Analyte: 21-Deoxycortisol (21D2) - Lot C2111 - Enrichment 50

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	47.81	16	157	14.35	6.05	13.01

Analyte: 21-Deoxycortisol (21D2) - Lot D2111 - Enrichment 100

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	101.93	16	158	28.51	12.24	25.75

Analyte: 21-Deoxycortisol (21D2) - Lot E2111 - Enrichment 500

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	506.48	16	157	111.27	45.34	101.61

Methylmalonic Acid (MMA2) (µmol/L blood)

Analyte: Methylmalonic Acid (MMA2) - Lot A2114 - Enrichment 2

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	2.02	22	198	0.61	0.27	0.55

Analyte: Methylmalonic Acid (MMA2) - Lot B2114 - Enrichment 5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	4.69	23	216	1.18	0.5	1.07

Analyte: Methylmalonic Acid (MMA2) - Lot C2114 - Enrichment 20

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	17.66	23	216	4.02	1.37	3.78

Analyte: Methylmalonic Acid (MMA2) - Lot D2114 - Enrichment 50

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	44.1	23	216	10.39	3.28	9.86

Ethylmalonic Acid (EMA2) ($\mu\text{mol/L}$ blood)

Analyte: Ethylmalonic Acid (EMA2) - Lot A2114 - Enrichment 2

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	2.39	8	73	0.8	0.39	0.7

Analyte: Ethylmalonic Acid (EMA2) - Lot B2114 - Enrichment 5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	4.97	8	79	1.23	0.59	1.08

Analyte: Ethylmalonic Acid (EMA2) - Lot C2114 - Enrichment 20

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	19.38	8	80	3.7	1.7	3.28

Analyte: Ethylmalonic Acid (EMA2) - Lot D2114 - Enrichment 50

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	47.05	8	80	8.04	3.59	7.19

2-Methylcitric Acid (MCA2) ($\mu\text{mol/L}$ blood)

Analyte: 2-Methylcitric Acid (MCA2) - Lot A2114 - Enrichment 1

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	1	14	134	0.51	0.26	0.44

Analyte: 2-Methylcitric Acid (MCA2) - Lot B2114 - Enrichment 2.5

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	2.5	15	146	1.01	0.31	0.96

Analyte: 2-Methylcitric Acid (MCA2) - Lot C2114 - Enrichment 10

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	9.02	16	156	2.88	0.82	2.76

Analyte: 2-Methylcitric Acid (MCA2) - Lot D2114 - Enrichment 25

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	22.43	16	156	6.24	2.36	5.77

Total Homocysteine (tHCY2) ($\mu\text{mol/L}$ blood)

Analyte: Total Homocysteine (tHCY2) - Lot A2114 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	8.68	22	212	4.83	1.11	4.7

Analyte: Total Homocysteine (tHCY2) - Lot B2114 - Enrichment 10

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	16.65	23	222	8.65	2.03	8.41

Analyte: Total Homocysteine (tHCY2) - Lot C2114 - Enrichment 50

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	44.27	23	222	20.93	5.18	20.28

Analyte: Total Homocysteine (tHCY2) - Lot D2114 - Enrichment 100

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	78.24	23	222	32.92	8.41	31.83

Alloisoleucine (ALE2) ($\mu\text{mol/L}$ blood)

Analyte: Alloisoleucine (ALE2) - Lot A2113 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	1.49	11	110	2.4	0.21	2.39

Analyte: Alloisoleucine (ALE2) - Lot B2113 - Enrichment 50

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	35.85	12	114	11.4	2.39	11.15

Analyte: Alloisoleucine (ALE2) - Lot C2113 - Enrichment 100

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	72.22	12	114	20.65	4.55	20.14

Analyte: Alloisoleucine (ALE2) - Lot D2113 - Enrichment 200

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	146.71	12	114	45.22	11.71	43.68

Analyte: Alloisoleucine (ALE2) - Lot E2113 - Enrichment 400

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	300.75	12	114	84.64	21.03	81.98

Isoleucine (ILE2) ($\mu\text{mol/L}$ blood)

Analyte: Isoleucine (ILE2) - Lot A2113 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	18.21	13	122	4.72	2.43	4.05

Analyte: Isoleucine (ILE2) - Lot B2113 - Enrichment 100

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	91.64	13	122	17.12	5.72	16.14

Analyte: Isoleucine (ILE2) - Lot C2113 - Enrichment 200

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	166.52	13	122	31.13	10.1	29.44

Analyte: Isoleucine (ILE2) - Lot D2113 - Enrichment 400

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	333.07	13	122	61.34	24.73	56.13

Analyte: Isoleucine (ILE2) - Lot E2113 - Enrichment 800

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	652.35	13	122	129.17	42.43	122

Leucine (LEU2) ($\mu\text{mol/L}$ blood)

Analyte: Leucine (LEU2) - Lot A2113 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	40.44	13	122	8.83	4.29	7.71

Analyte: Leucine (LEU2) - Lot B2113 - Enrichment 100

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	120.83	13	122	20.76	7.41	19.39

Analyte: Leucine (LEU2) - Lot C2113 - Enrichment 200

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	204.83	13	122	26.75	11.17	24.3

Analyte: Leucine (LEU2) - Lot D2113 - Enrichment 400

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	378.62	13	122	72.2	32.21	64.62

Analyte: Leucine (LEU2) - Lot E2113 - Enrichment 800

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	714.98	13	122	122.02	66.06	102.59

Phenylalanine (PHE2) ($\mu\text{mol/L}$ blood)

Analyte: Phenylalanine (PHE2) - Lot A2113 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	25.13	10	92	3.68	1.95	3.12

Analyte: Phenylalanine (PHE2) - Lot B2113 - Enrichment 100

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	110.65	11	102	20.55	12.21	16.53

Analyte: Phenylalanine (PHE2) - Lot C2113 - Enrichment 200

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	195.28	10	92	17.74	10.72	14.14

Analyte: Phenylalanine (PHE2) - Lot D2113 - Enrichment 400

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	380.16	11	102	49.27	22.96	43.59

Analyte: Phenylalanine (PHE2) - Lot E2113 - Enrichment 800

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	756.05	11	102	98.78	45.19	87.84

Tyrosine (TYR2) ($\mu\text{mol/L}$ blood)

Analyte: Tyrosine (TYR2) - Lot A2113 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	26.6	10	92	3.66	1.83	3.17

Analyte: Tyrosine (TYR2) - Lot B2113 - Enrichment 100

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	112.3	11	102	14.25	7.25	12.27

Analyte: Tyrosine (TYR2) - Lot C2113 - Enrichment 200

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	195.89	10	92	16.12	10.5	12.23

Analyte: Tyrosine (TYR2) - Lot D2113 - Enrichment 400

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	380.81	11	102	45.62	20.82	40.59

Analyte: Tyrosine (TYR2) - Lot E2113 - Enrichment 800

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	742.14	11	102	95.2	45.93	83.38

Valine (VAL2) ($\mu\text{mol/L}$ blood)

Analyte: Valine (VAL2) - Lot A2113 - Enrichment 0

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	54.1	13	122	16.82	7.81	14.9

Analyte: Valine (VAL2) - Lot B2113 - Enrichment 100

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	128.77	13	122	27.83	10.52	25.76

Analyte: Valine (VAL2) - Lot C2113 - Enrichment 200

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	206.47	13	122	45.03	17.03	41.69

Analyte: Valine (VAL2) - Lot D2113 - Enrichment 400

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	370.01	13	122	79.61	30.52	73.53

Analyte: Valine (VAL2) - Lot E2113 - Enrichment 800

Method	Total Mean	Number of Labs	Total N	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	688.9	13	122	135.47	50.13	125.85

This *NEWBORN SCREENING QUALITY ASSURANCE PROGRAM* report is an internal publication distributed to program participants and selected program colleagues. The laboratory quality assurance program is a project cosponsored by the Centers for Disease Control and Prevention (CDC) and the Association of Public Health Laboratories.

CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC) ATLANTA, GA 30341

Director

Rochelle P. Walensky, MD, MPH

Director National Center for Environmental Health

Robin M. Ikeda, MD, MPH (acting)

Director Division of Laboratory Sciences

James L. Pirkle, M.D., Ph.D.

Chief Newborn Screening and Molecular Biology Branch

Carla Cuthbert, PhD

Contributors

John Bernstein, MS

Christofer Brown, BS

Anthony Cervalli, BS

David Cobb, PhD

Michelle Chaney, BS

Alora Colvin, BS

Elya Courtney, MPH

Suzanne Cordovado, PhD

Katherine Duneman, MS

Ernesto Gonzales Reyes, PhD

Christopher Greene, PhD

Rosemary Hage, PhD

Laura Hancock, MS

Miyono Hendrix, MS

Omar Aboul Houda, BS

Samantha Isenberg, PhD

Jihyun Kim, MS

Francis Lee, PhD

LiXia Li, PhD

Timothy Lim, PhD

Elizabeth McCown, BS

Joanne Mei, PhD

Auriel Moseley, MS

Stanimila Nikolova, PhD

Ivy Onyechi, MS

Gyliann Peña, MS

Kostas Petritis, PhD

Daquille Peppers, MS

C. Austin Pickens, PhD

Blanche Temate, PhD

Robert Vogt, PhD

Irene Sofikitis Williams, MS

Golriz Yazdanpanah, MS

Sherri Zobel, BS

Production

Vinay Anumula, MS

Se'Von Mills, MS

Kizzy Stewart

ASSOCIATION OF PUBLIC HEALTH LABORATORIES SILVER SPRING, MD 20910

President

Denise Toney, PhD, HCLD(ABB)

Chairman, Newborn Screening Committee

Michele Caggana, Sc.D., FACMG and Joseph Orsini, Ph.D.

Chairman, Newborn Screening Quality Assurance Quality Control Subcommittee

Patrice Held, Ph.D

Chairman, Newborn Screening Molecular Subcommittee

Denise Kay, Ph.D and Richard Olney, MD, MPH

INQUIRIES TO:

Irene Sofikitis Williams, Editor

Centers for Disease Control and Prevention (CDC), Newborn Screening Quality Assurance Program

Mailstop S110-3, 4770 Buford Highway, N.E., Atlanta, GA 30341-3724 E-mail: NSQAPDMT@cdc.gov