Newborn Screening Quality Assurance Program

2024 Set 1 Quality Control Report

In co-sponsorship with Association of Public Health Laboratories (APHL)
Provided by the Newborn Screening and Molecular Biology Branch
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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 2024 Set 1 QC data reported by state, contract, and private laboratories in the United States; international participants; and manufacturers of screening test products.

QC Material Production

NSQAP provided 6-month supplies of DBS QC materials. 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 µL aliquots on Grade 903 filter paper (Cytiva (Cardiff, United Kingdom)).

NSQAP provided QC materials including three lots of increasing enrichment for thyroxine (T4), thyroid-stimulating hormone (TSH), 17 α-hydroxyprogesterone/total galactose (17OHP/TGal), galactose-1-phosphate uridyltransferase (GALT). Four lots were shipped for Immunoreactive trypsinogen (IRT), and lysosomal storage disorders (LSD) including analytes galactocerebrosidase (GALC), acid α-glucosidase (GAA), α-L-iduronidase (IDUA), α-galactosidase (GLA), β-glucocerebrosidase (ABG), and acid sphingomyelinase (ASM). No data were collected for MSMS1QC analytes for this set of QC materials.

Second-tier QC programs consisting of five lots per program were also included. The second-tier programs are 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 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).

NOTE: NSQAP shipped set 1 MSMSQC materials on 2 April 2024 and results were not collected for the analytes in these materials.

QC Material Distribution

On January 9, 2024, NSQAP distributed DBS quality control (QC) materials to 406 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.

Participant Results

For the Set 1 QC materials, we compiled the participant results from five analytic runs from each QC lot and calculated mean values and standard deviations (SD). NSQAP removed data values considered to be “blunders.” 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.

Participants must report results in requested units of measure. 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.

Tables on pages 4 - 30 summarize reported QC data. Each analyte summary table provides the following:

- Analyte name, analyte abbreviation, and reportable units of measure
- Method – The reported method
- Number of labs - Total number of laboratories reporting results for a given lot level within a specified method group
    - Note: methods with less than five laboratories reporting data were not included
- Total N – Total number of data points reported by laboratories for a given lot within a specified method group
- Total mean - Average results reported by laboratories for a given lot within the specified method
- Total SD - Standard deviation of results reported by laboratories for a given lot within the specified method
- Intralaboratory SD - Within laboratory standard deviation of data points reported by laboratories for a given lot within the specified method
- Interlaboratory SD - Between laboratory standard deviation of data points reported by laboratories for a given lot within the specified method

Thyroxine (T4) (µg/dL serum)

Analyte: Thyroxine (T4) - Lot A2300 - Enrichment 2

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFIA® Neonatal T4 Revvity	8	80	1.7	0.6	0.3	0.5
DELFIA® Neonatal T4 Revvity	5	50	1.9	0.6	0.3	0.6
GSP® T4 Neonatal Revvity	17	143	2.0	0.7	0.5	0.5

Analyte: Thyroxine (T4) - Lot B2300 - Enrichment 7

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFIA® Neonatal T4 Revvity	9	90	6.5	1.6	0.8	1.4
DELFIA® Neonatal T4 Revvity	5	50	7.0	1.3	0.8	1.1
GSP® T4 Neonatal Revvity	18	178	7.2	1.3	0.8	1.0

Analyte: Thyroxine (T4) - Lot C2300 - Enrichment 11

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFIA® Neonatal T4 Revvity	9	90	10.9	2.6	1.2	2.3
DELFIA® Neonatal T4 Revvity	5	50	12.1	2.3	1.5	1.8
GSP® T4 Neonatal Revvity	18	178	12.8	2.2	1.4	1.7

Thyroid-Stimulating Hormone (TSH) (µIU/mL serum)

Analyte: Thyroid-Stimulating Hormone (TSH) - Lot A2301 - Enrichment 25

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFIA® Neonatal hTSH Revvity	40	400	23.6	4.6	2.1	4.1
DELFIA® Neonatal TSH Revvity	39	374	21.0	7.1	2.4	6.7
ZenTech ELISA Neonatal TSH	14	140	19.5	12.1	6.5	10.2
GSP® hTSH Neonatal Revvity	79	776	21.9	5.4	2.1	5.0
Neonatal TSH LabSystems	17	169	21.3	9.8	4.8	8.6
DiaSorin Immunoassay TSH	6	60	21.2	3.1	2.1	2.3

Analyte: Thyroid-Stimulating Hormone (TSH) - Lot B2301 - Enrichment 40

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFIA® Neonatal hTSH Revvity	40	400	39.6	7.5	2.9	7.0
DELFIA® Neonatal TSH Revvity	40	375	34.9	13.2	3.6	12.7
ZenTech ELISA Neonatal TSH	14	140	34.6	17.5	8.5	15.4
GSP® hTSH Neonatal Revvity	79	776	36.6	7.9	3.1	7.3
Neonatal TSH LabSystems	17	170	35.7	15.7	5.1	14.9
DiaSorin Immunoassay TSH	6	60	33.5	6.1	4.1	4.5

Analyte: Thyroid-Stimulating Hormone (TSH) - Lot C2301 - Enrichment 80

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFIA® Neonatal hTSH Revvity	40	400	78.9	15.4	6.5	14.0
DELFIA® Neonatal TSH Revvity	40	375	69.8	25.1	6.8	24.1
ZenTech ELISA Neonatal TSH	13	130	67.5	24.7	8.8	23.1
GSP® hTSH Neonatal Revvity	79	776	73.4	15.9	6.5	14.5
Neonatal TSH LabSystems	17	170	68.9	29.9	9.8	28.2
DiaSorin Immunoassay TSH	6	60	65.9	10.8	7.2	8.0

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

Analyte: 17 α-Hydroxyprogesterone (17OHP) - Lot A2305 - Enrichment 25

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFIA® Neonatal 17OHP Revvity	35	350	23.0	3.8	2.0	3.3
DELFIA® Neonatal 17OHP Revvity	26	244	22.1	6.9	2.2	6.5
ZenTech ELISA Neonatal 17OHP	9	90	34.1	22.1	11.3	19.0
GSP® 17OHP Neonatal Revvity	61	602	24.0	3.9	2.0	3.4
Neonatal 17OHP LabSystems	19	189	20.8	6.1	2.2	5.7

Analyte: 17 α-Hydroxyprogesterone (17OHP) - Lot B2305 - Enrichment 50

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFIA® Neonatal 17OHP Revvity	35	350	46.6	7.4	3.8	6.3
DELFIA® Neonatal 17OHP Revvity	26	244	44.6	14.3	5.4	13.2
ZenTech ELISA Neonatal 17OHP	9	90	52.2	17.8	8.3	15.7
GSP® 17OHP Neonatal Revvity	61	602	48.7	8.3	4.0	7.3
Neonatal 17OHP LabSystems	19	190	37.9	11.1	4.7	10.1

Analyte: 17 α-Hydroxyprogesterone (17OHP) - Lot C2305 - Enrichment 100

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFIA® Neonatal 17OHP Revvity	35	350	95.5	17.5	8.8	15.2
DELFIA® Neonatal 17OHP Revvity	26	244	87.0	30.8	13.3	27.8
ZenTech ELISA Neonatal 17OHP	9	90	111.0	43.9	28.6	33.2
GSP® 17OHP Neonatal Revvity	61	602	98.7	17.5	9.0	15.0
Neonatal 17OHP LabSystems	19	190	71.9	24.6	10.3	22.4

Total Galactose (TGal) (mg/dL blood)

Analyte: Total Galactose (TGal) - Lot A2305 - Enrichment 5

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
ZenTech Neonatal TGal Enzymatic Colorimetric	13	130	6.8	2.2	0.9	2.0
GSP® TGal Neonatal Revvity	37	370	5.1	1.4	0.7	1.2
Fluorescence TGal Neonatal Revvity	26	244	4.3	1.1	0.6	1.0

Analyte: Total Galactose (TGal) - Lot B2305 - Enrichment 10

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
ZenTech Neonatal TGal Enzymatic Colorimetric	13	130	9.7	2.6	1.0	2.5
GSP® TGal Neonatal Revvity	37	360	10.3	2.1	1.1	1.7
Fluorescence TGal Neonatal Revvity	26	244	9.4	1.9	1.0	1.6

Analyte: Total Galactose (TGal) - Lot C2305 - Enrichment 30

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
ZenTech Neonatal TGal Enzymatic Colorimetric	13	130	22.3	4.0	1.9	3.5
GSP® TGal Neonatal Revvity	36	359	32.2	5.3	3.1	4.3
Fluorescence TGal Neonatal Revvity	25	241	27.6	5.4	2.8	4.6

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

Analyte: GALT/Galactose-1-phosphate Uridyltransferase (GALT) - Lot A2303 - Mean Activity 1.3

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
Fluorescence GALT Neonatal Revvity, U/g Hb	21	186	1.3	0.5	0.3	0.4

Analyte: GALT/Galactose-1-phosphate Uridyltransferase (GALT) - Lot B2303 - Mean Activity 5.3

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
Fluorescence GALT Neonatal Revvity, U/g Hb	22	204	4.7	1.0	0.5	0.8

Analyte: GALT/Galactose-1-phosphate Uridyltransferase (GALT) - Lot C2303 - Mean Activity 11.9

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
Fluorescence GALT Neonatal Revvity, U/g Hb	22	204	10.7	2.3	1.3	1.9

GALT/Galactose-1-phosphate Uridyltransferase (GALT) Other Units

Analyte: GALT/Galactose-1-phosphate Uridyltransferase (GALT) - Lot A2303

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
GSP® GALT Neonatal Revvity, U/dL blood	15	115	0.6	0.6	0.2	0.6

Analyte: GALT/Galactose-1-phosphate Uridyltransferase (GALT) - Lot B2303

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
GSP® GALT Neonatal Revvity, U/dL blood	29	282	4.8	1.1	0.6	0.9

Analyte: GALT/Galactose-1-phosphate Uridyltransferase (GALT) - Lot C2303

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
GSP® GALT Neonatal Revvity, U/dL blood	29	282	18.9	3.5	1.8	3.0

Immunoreactive Trypsinogen (IRT) (ng/mL blood)

Analyte: Immunoreactive Trypsinogen (IRT) - Lot A2309 - Assayed Values 16.4

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFIA® Neonatal IRT Revvity	32	320	18.2	2.5	1.5	2.0
DELFIA® Neonatal IRT	16	152	18.8	3.9	2.2	3.2
ZenTech ELISA Neonatal IRT	10	100	23.8	6.3	3.1	5.4
FEIA IRT Labsystems	12	120	17.6	8.7	5.3	7.0
GSP® IRT Neonatal Revvity, ng/mL blood	53	530	17.3	3.3	1.4	2.9

Analyte: Immunoreactive Trypsinogen (IRT) - Lot B2309 - Assayed Values 64.8

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFIA® Neonatal IRT Revvity	33	330	67.2	8.1	5.3	6.2
DELFIA® Neonatal IRT	16	152	62.5	10.1	6.4	7.7
ZenTech ELISA Neonatal IRT	10	100	102.8	23.4	8.6	21.8
FEIA IRT Labsystems	12	120	66.8	19.6	10.7	16.4
GSP® IRT Neonatal Revvity, ng/mL blood	55	550	67.9	8.5	5.3	6.6

Analyte: Immunoreactive Trypsinogen (IRT) - Lot C2309 - Assayed Values 134.6

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFIA® Neonatal IRT Revvity	33	330	135.1	17.5	11.2	13.4
DELFIA® Neonatal IRT	16	152	132.5	32.5	11.1	30.5
ZenTech ELISA Neonatal IRT	10	100	155.1	25.9	9.4	24.1
FEIA IRT Labsystems	12	119	148.7	43.7	27.0	34.3
GSP® IRT Neonatal Revvity, ng/mL blood	55	550	137.1	16.4	10.4	12.6

Analyte: Immunoreactive Trypsinogen (IRT) - Lot D2309 - Assayed Values 229.1

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
AutoDELFIA® Neonatal IRT Revvity	33	330	238.1	30.8	20.8	22.7
DELFIA® Neonatal IRT	16	152	229.0	38.3	22.4	31.0
ZenTech ELISA Neonatal IRT	10	100	183.0	28.7	13.1	25.5
FEIA IRT Labsystems	12	120	271.7	75.3	43.2	61.7
GSP® IRT Neonatal Revvity, ng/mL blood	55	550	249.9	36.2	22.4	28.4

Galactoceramidase (GALC) (µmol/hr/L blood)

Analyte: Galactoceramidase (GALC) - Lot A2308 - Mean Activity 0.54

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit Revvity	18	173	0.14	0.09	0.05	0.07

Analyte: Galactoceramidase (GALC) - Lot B2308 - Mean Activity 1.12

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit Revvity	20	200	0.58	0.11	0.06	0.09

Analyte: Galactoceramidase (GALC) - Lot C2308 - Mean Activity 5

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit Revvity	20	200	3.26	0.36	0.21	0.29

Analyte: Galactoceramidase (GALC) - Lot D2308 - Mean Activity 9.03

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit Revvity	20	200	6.27	0.8	0.52	0.61

Acid α-Glucosidase (GAA) (µmol/hr/L blood)

Analyte: Acid α-Glucosidase (GAA) - Lot A2308 - Mean Activity 0.94

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit Revvity	26	260	0.15	0.17	0.04	0.16

Analyte: Acid α-Glucosidase (GAA) - Lot B2308 - Mean Activity 1.49

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
Digital Microfluidic Fluorescence	6	55	2.51	0.92	0.57	0.73
NeoLSD™ MSMS Kit Revvity	28	273	0.58	0.23	0.09	0.21

Analyte: Acid α-Glucosidase (GAA) - Lot C2308 - Mean Activity 6.16

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
Digital Microfluidic Fluorescence	6	60	12.12	1.90	1.22	1.45
Fluorometric manual LSD - non-kit	5	50	6.29	8.53	1.05	8.46
NeoLSD™ MSMS Kit Revvity	28	278	4.13	0.85	0.45	0.72

Analyte: Acid α-Glucosidase (GAA) - Lot D2308 - Mean Activity 8.56

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
Digital Microfluidic Fluorescence	6	60	20.15	2.62	1.68	2.00
Fluorometric manual LSD - non-kit	5	50	11.34	15.41	1.46	15.34
NeoLSD™ MSMS Kit Revvity	28	278	6.49	0.92	0.50	0.77

α-L-Iduronidase (IDUA) (µmol/hr/L blood)

Analyte: α-L-Iduronidase (IDUA) - Lot A2308 - Mean Activity 0.28

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
Digital Microfluidic Fluorescence	5	44	2.31	0.96	0.59	0.76
NeoLSD™ MSMS Kit Revvity	28	271	0.13	0.07	0.03	0.06

Analyte: α-L-Iduronidase (IDUA) - Lot B2308 - Mean Activity 0.77

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
Digital Microfluidic Fluorescence	6	58	3.04	0.60	0.38	0.47
NeoLSD™ MSMS Kit Revvity	32	319	0.48	0.11	0.05	0.09

Analyte: α-L-Iduronidase (IDUA) - Lot C2308 - Mean Activity 5.25

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
Digital Microfluidic Fluorescence	6	60	11.45	1.56	0.95	1.24
NeoLSD™ MSMS Kit Revvity	32	320	3.66	0.66	0.37	0.55

Analyte: α-L-Iduronidase (IDUA) - Lot D2308 - Mean Activity 9.23

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
Digital Microfluidic Fluorescence	6	60	22.70	3.58	2.45	2.62
NeoLSD™ MSMS Kit Revvity	32	320	6.86	1.10	0.58	0.93

α-Galactosidase (GLA) (µmol/hr/L blood)

Analyte: α-Galactosidase (GLA) - Lot A2308 - Mean Activity 3.73

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit Revvity	21	210	0.82	1.14	0.49	1.03

Analyte: α-Galactosidase (GLA) - Lot B2308 - Mean Activity 4.92

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit Revvity	23	230	1.9	1.41	0.67	1.24

Analyte: α-Galactosidase (GLA) - Lot C2308 - Mean Activity 11.78

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit Revvity	23	230	8.19	2.46	1.03	2.24

Analyte: α-Galactosidase (GLA) - Lot D2308 - Mean Activity 18.7

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit Revvity	23	230	14.39	3.55	1.45	3.24

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

Analyte: β-Glucocerebrosidase (ABG) - Lot A2308 - Mean Activity 0.47

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit Revvity	21	202	0.27	0.2	0.1	0.17

Analyte: β-Glucocerebrosidase (ABG) - Lot B2308 - Mean Activity 1.07

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit Revvity	22	213	0.66	0.26	0.15	0.21

Analyte: β-Glucocerebrosidase (ABG) - Lot C2308 - Mean Activity 4.45

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit Revvity	22	219	3.00	0.76	0.39	0.66

Analyte: β-Glucocerebrosidase (ABG) - Lot D2308 - Mean Activity 8.84

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit Revvity	22	220	6.37	1.59	0.77	1.39

Acid Sphingomyelinase (ASM) (µmol/hr/L blood)

Analyte: Acid Sphingomyelinase (ASM) - Lot A2308 - Mean Activity 0.14

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit Revvity	16	156	0.06	0.06	0.03	0.05

Analyte: Acid Sphingomyelinase (ASM) - Lot B2308 - Mean Activity 0.27

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit Revvity	17	157	0.16	0.07	0.03	0.06

Analyte: Acid Sphingomyelinase (ASM) - Lot C2308 - Mean Activity 1.43

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit Revvity	18	176	1.08	0.2	0.1	0.17

Analyte: Acid Sphingomyelinase (ASM) - Lot D2308 - Mean Activity 2.84

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
NeoLSD™ MSMS Kit Revvity	18	176	2.02	0.41	0.2	0.36

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

Analyte: 17 α-Hydroxyprogesterone (17OHP2) - Lot A2311 - Enrichment 0

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	14	118	0.32	0.75	0.44	0.61

Analyte: 17 α-Hydroxyprogesterone (17OHP2) - Lot B2311 - Enrichment 10

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	20	200	10.23	3.06	1.30	2.77
LC-MS/MS positive ion mode	7	66	10.62	4.13	1.63	3.79

Analyte: 17 α-Hydroxyprogesterone (17OHP2) - Lot C2311 - Enrichment 50

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	20	200	46.49	10.47	4.04	9.65
LC-MS/MS positive ion mode	7	66	50.73	18.96	6.72	17.73

Analyte: 17 α-Hydroxyprogesterone (17OHP2) - Lot D2311 - Enrichment 100

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	20	200	94.05	23.15	9.24	21.22
LC-MS/MS positive ion mode	7	66	104.66	39.48	12.85	37.33

Analyte: 17 α-Hydroxyprogesterone (17OHP2) - Lot E2311 - Enrichment 500

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	20	200	480.43	111.38	47.45	100.77
LC-MS/MS positive ion mode	7	60	494.40	103.31	39.23	95.57

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

Analyte: 4-Androstenedione (4AD) - Lot A2311 - Enrichment 0

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	12	112	0.38	0.75	0.19	0.72

Analyte: 4-Androstenedione (4AD) - Lot B2311 - Enrichment 10

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	19	190	10.52	2.68	0.94	2.50
LC-MS/MS positive ion mode	7	66	10.96	2.02	0.99	1.76

Analyte: 4-Androstenedione (4AD) - Lot C2311 - Enrichment 50

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	19	190	51.99	12.21	4.48	11.36
LC-MS/MS positive ion mode	7	66	54.26	11.19	4.73	10.15

Analyte: 4-Androstenedione (4AD) - Lot D2311 - Enrichment 100

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	19	190	99.83	26.31	9.32	24.60
LC-MS/MS positive ion mode	7	66	103.20	20.38	8.67	18.44

Analyte: 4-Androstenedione (4AD) - Lot E2311 - Enrichment 500

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	19	190	531.78	128.48	49.51	118.56
LC-MS/MS positive ion mode	7	66	550.95	94.22	36.53	86.85

Cortisol (CORT2) (ng/mL serum)

Analyte: Cortisol (CORT2) - Lot A2311 - Enrichment 0

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	15	137	1.81	2.1	1.22	1.71

Analyte: Cortisol (CORT2) - Lot B2311 - Enrichment 10

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	20	199	11.8	3.57	2.12	2.87
LC-MS/MS positive ion mode	6	56	13.9	4.02	1.98	3.50

Analyte: Cortisol (CORT2) - Lot C2311 - Enrichment 50

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	20	200	50.88	9.53	4.4	8.45
LC-MS/MS positive ion mode	7	66	58.49	15.11	7.8	12.94

Analyte: Cortisol (CORT2) - Lot D2311 - Enrichment 100

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	20	200	103.97	21.98	9.77	19.70
LC-MS/MS positive ion mode	7	66	122.28	34.42	15.24	30.86

Analyte: Cortisol (CORT2) - Lot E2311 - Enrichment 500

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	20	200	544.73	110.00	49.95	98.01
LC-MS/MS positive ion mode	7	59	618.20	118.98	50.86	107.56

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

Analyte: 11-Deoxycortisol (11D2) - Lot A2311 - Enrichment 0

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	13	125	1.62	4.42	0.75	4.35

Analyte: 11-Deoxycortisol (11D2) - Lot B2311 - Enrichment 10

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	17	170	11.98	4.31	1.27	4.12
LC-MS/MS positive ion mode	6	56	12.27	3.26	1.73	2.77

Analyte: 11-Deoxycortisol (11D2) - Lot C2311 - Enrichment 50

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	17	170	52.11	10.05	3.76	9.31
LC-MS/MS positive ion mode	6	56	58.12	13.48	6.56	11.78

Analyte: 11-Deoxycortisol (11D2) - Lot D2311 - Enrichment 100

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	17	170	104.85	22.32	10.43	19.73
LC-MS/MS positive ion mode	6	56	120.82	31.52	13.65	28.41

Analyte: 11-Deoxycortisol (11D2) - Lot E2311 - Enrichment 500

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	17	170	525.99	119.78	46.05	110.58
LC-MS/MS positive ion mode	6	56	618.86	153.95	68.44	137.90

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

Analyte: 21-Deoxycortisol (21D2) - Lot A2311 - Enrichment 0

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	14	128	1.58	4.43	0.75	4.36

Analyte: 21-Deoxycortisol (21D2) - Lot B2311 - Enrichment 10

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	17	169	10.47	4.48	1.73	4.13
LC-MS/MS positive ion mode	6	56	10.49	3.54	1.16	3.34

Analyte: 21-Deoxycortisol (21D2) - Lot C2311 - Enrichment 50

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	17	170	47.41	13.17	5.22	12.09
LC-MS/MS positive ion mode	6	56	50.19	17.99	6.27	16.87

Analyte: 21-Deoxycortisol (21D2) - Lot D2311 - Enrichment 100

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	17	170	97.29	26.70	10.58	24.52
LC-MS/MS positive ion mode	6	56	105.00	36.99	10.40	35.50

Analyte: 21-Deoxycortisol (21D2) - Lot E2311 - Enrichment 500

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	17	170	513.51	126.46	55.56	113.60
LC-MS/MS positive ion mode	6	56	555.23	171.13	47.68	164.35

Methylmalonic Acid (MMA2) (µmol/L blood)

Analyte: Methylmalonic Acid (MMA2) - Lot A2314 - Enrichment 2

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	20	189	2.21	2.64	0.42	2.61
LC-MS/MS negative ion mode	5	50	1.98	0.71	0.33	0.63

Analyte: Methylmalonic Acid (MMA2) - Lot B2314 - Enrichment 5

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	20	192	4.42	3.21	0.60	3.15
LC-MS/MS negative ion mode	5	50	4.94	1.43	0.45	1.36

Analyte: Methylmalonic Acid (MMA2) - Lot C2314 - Enrichment 20

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	20	200	18.80	10.43	1.86	10.27
LC-MS/MS negative ion mode	5	50	19.32	4.82	2.02	4.37

Analyte: Methylmalonic Acid (MMA2) - Lot D2314 - Enrichment 50

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	20	197	48.05	27.24	4.31	26.90
LC-MS/MS negative ion mode	5	50	49.90	13.96	7.03	12.06

Ethylmalonic Acid (EMA2) (µmol/L blood)

Analyte: Ethylmalonic Acid (EMA2) - Lot A2314 - Enrichment 2

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	6	60	2.07	0.7	0.42	0.56

Analyte: Ethylmalonic Acid (EMA2) - Lot B2314 - Enrichment 5

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	6	60	4.69	1.01	0.48	0.89

Analyte: Ethylmalonic Acid (EMA2) - Lot C2314 - Enrichment 20

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	6	60	18.91	4.41	1.61	4.11

Analyte: Ethylmalonic Acid (EMA2) - Lot D2314 - Enrichment 50

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	6	60	46.2	12.24	3.45	11.74

2-Methylcitric Acid (MCA2) (µmol/L blood)

Analyte: 2-Methylcitric Acid (MCA2) - Lot A2314 - Enrichment 1

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	16	160	1.23	0.58	0.19	0.55

Analyte: 2-Methylcitric Acid (MCA2) - Lot B2314 - Enrichment 2.5

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	16	160	2.55	1.04	0.30	1.00

Analyte: 2-Methylcitric Acid (MCA2) - Lot C2314 - Enrichment 10

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	16	160	10.39	3.93	0.94	3.82

Analyte: 2-Methylcitric Acid (MCA2) - Lot D2314 - Enrichment 25

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	16	160	27.56	11.66	2.73	11.33

Total Homocysteine (tHCY2) (µmol/L blood)

Analyte: Total Homocysteine (tHCY2) - Lot A2314 - Enrichment 0

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	17	137	9.20	4.35	0.96	4.25
LC-MS/MS positive ion mode	5	45	7.43	4.86	0.72	4.81

Analyte: Total Homocysteine (tHCY2) - Lot B2314 - Enrichment 10

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	18	150	19.47	9.33	1.99	9.11
LC-MS/MS positive ion mode	6	54	17.05	10.41	0.98	10.36

Analyte: Total Homocysteine (tHCY2) - Lot C2314 - Enrichment 50

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	18	153	56.28	27.25	4.98	26.79
LC-MS/MS positive ion mode	6	53	49.05	29.84	2.72	29.71

Analyte: Total Homocysteine (tHCY2) - Lot D2314 - Enrichment 100

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	18	168	116.56	60.00	12.31	58.72
LC-MS/MS positive ion mode	6	49	107.23	56.85	8.87	56.15

Alloisoleucine (ALE2) (µmol/L blood)

Analyte: Alloisoleucine (ALE2) - Lot A2313 - Enrichment 0

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	13	119	0.63	0.38	0.26	0.28

Analyte: Alloisoleucine (ALE2) - Lot B2313 - Enrichment 100

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	13	130	76.81	16.27	5.28	15.39
LC-MS/MS positive ion mode	5	42	91.40	11.16	6.67	8.95

Analyte: Alloisoleucine (ALE2) - Lot C2313 - Enrichment 200

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	13	130	152.70	31.57	10.77	29.67
LC-MS/MS positive ion mode	5	42	188.08	25.88	15.05	21.06

Analyte: Alloisoleucine (ALE2) - Lot D2313 - Enrichment 400

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	13	130	299.26	60.43	22.95	55.90
LC-MS/MS positive ion mode	5	42	367.55	61.61	40.60	46.34

Analyte: Alloisoleucine (ALE2) - Lot E2313 - Enrichment 800

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	13	130	584.82	103.56	35.63	97.24
LC-MS/MS positive ion mode	5	42	748.29	113.69	66.51	92.21

Isoleucine (ILE2) (µmol/L blood)

Analyte: Isoleucine (ILE2) - Lot A2313 - Enrichment 0

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	13	130	17.84	4.86	2.27	4.30
LC-MS/MS positive ion mode	5	42	20.84	5.20	1.22	5.05

Analyte: Isoleucine (ILE2) - Lot B2313 - Enrichment 100

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	13	130	96.78	16.61	7.47	14.84
LC-MS/MS positive ion mode	5	42	114.61	14.53	7.93	12.18

Analyte: Isoleucine (ILE2) - Lot C2313 - Enrichment 200

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	13	130	176.30	29.49	13.27	26.34
LC-MS/MS positive ion mode	5	42	211.51	33.77	19.94	27.25

Analyte: Isoleucine (ILE2) - Lot D2313 - Enrichment 400

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	13	130	335.88	52.45	28.11	44.28
LC-MS/MS positive ion mode	5	42	402.03	69.24	45.45	52.23

Analyte: Isoleucine (ILE2) - Lot E2313 - Enrichment 800

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	13	130	646.23	103.60	48.18	91.72
LC-MS/MS positive ion mode	5	42	804.11	93.36	51.18	78.08

Leucine (LEU2) (µmol/L blood)

Analyte: Leucine (LEU2) - Lot A2313 - Enrichment 0

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	14	139	52.47	11.42	4.23	10.61
LC-MS/MS positive ion mode	5	42	60.03	6.80	2.66	6.26

Analyte: Leucine (LEU2) - Lot B2313 - Enrichment 100

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	13	130	136.6	21.88	9.63	19.65
LC-MS/MS positive ion mode	5	42	157.0	17.33	9.03	14.79

Analyte: Leucine (LEU2) - Lot C2313 - Enrichment 200

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	15	150	273.45	139.09	15.61	138.22
LC-MS/MS positive ion mode	5	42	258.96	36.89	23.21	28.68

Analyte: Leucine (LEU2) - Lot D2313 - Enrichment 400

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	13	130	391.20	56.06	25.29	50.03
LC-MS/MS positive ion mode	5	42	449.91	72.26	46.99	54.89

Analyte: Leucine (LEU2) - Lot E2313 - Enrichment 800

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	13	130	733.65	104.61	44.53	94.66
LC-MS/MS positive ion mode	5	42	860.71	96.84	52.26	81.54

Phenylalanine (PHE2) (µmol/L blood)

Analyte: Phenylalanine (PHE2) - Lot A2313 - Enrichment 0

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	11	107	29.48	5.49	2.49	4.89
LC-MS/MS positive ion mode	5	42	28.88	2.77	1.57	2.28

Analyte: Phenylalanine (PHE2) - Lot B2313 - Enrichment 100

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	11	110	117.65	14.58	9.08	11.41
LC-MS/MS positive ion mode	5	42	114.04	10.66	6.12	8.73

Analyte: Phenylalanine (PHE2) - Lot C2313 - Enrichment 200

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	10	100	200.91	31.25	15.59	27.08
LC-MS/MS positive ion mode	5	42	202.71	23.15	13.17	19.04

Analyte: Phenylalanine (PHE2) - Lot D2313 - Enrichment 400

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	12	111	391.66	46.50	22.38	40.76
LC-MS/MS positive ion mode	5	42	371.34	40.71	23.70	33.10

Analyte: Phenylalanine (PHE2) - Lot E2313 - Enrichment 800

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	12	111	715.81	119.34	48.63	108.98
LC-MS/MS positive ion mode	5	42	725.45	77.54	34.46	69.46

Tyrosine (TYR2) (µmol/L blood)

Analyte: Tyrosine (TYR2) - Lot A2313 - Enrichment 0

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	10	91	28.47	6.35	2.90	5.65
LC-MS/MS positive ion mode	5	42	29.45	5.12	2.72	4.34

Analyte: Tyrosine (TYR2) - Lot B2313 - Enrichment 100

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	11	105	109.66	20.84	7.67	19.38
LC-MS/MS positive ion mode	5	42	103.76	14.03	8.41	11.23

Analyte: Tyrosine (TYR2) - Lot C2313 - Enrichment 200

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	10	92	184.49	27.96	10.80	25.79
LC-MS/MS positive ion mode	5	42	185.66	23.83	12.49	20.30

Analyte: Tyrosine (TYR2) - Lot D2313 - Enrichment 400

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	11	104	356.89	57.47	22.13	53.04
LC-MS/MS positive ion mode	5	42	338.93	39.31	19.20	34.31

Analyte: Tyrosine (TYR2) - Lot E2313 - Enrichment 800

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	11	100	652.85	127.78	80.73	99.05
LC-MS/MS positive ion mode	5	42	682.70	90.51	46.56	77.61

Valine (VAL2) (µmol/L blood)

Analyte: Valine (VAL2) - Lot A2313 - Enrichment 0

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	14	132	64.86	12.82	4.81	11.88
LC-MS/MS positive ion mode	5	33	70.18	7.74	3.55	6.88

Analyte: Valine (VAL2) - Lot B2313 - Enrichment 100

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	14	140	149.22	27.35	10.60	25.21
LC-MS/MS positive ion mode	5	34	144.45	22.04	11.09	19.04

Analyte: Valine (VAL2) - Lot C2313 - Enrichment 200

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	14	140	231.61	40.81	14.72	38.06
LC-MS/MS positive ion mode	5	42	237.32	49.69	19.34	45.77

Analyte: Valine (VAL2) - Lot D2313 - Enrichment 400

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	14	133	398.13	64.71	23.46	60.31
LC-MS/MS positive ion mode	5	35	381.64	73.50	42.57	59.91

Analyte: Valine (VAL2) - Lot E2313 - Enrichment 800

Method	Number of Labs	Total N	Total Mean	Total SD	Intra Lab SD	Inter Lab SD
LC-MS/MS non-kit	14	125	712.79	122.28	39.24	115.81

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