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# Diagnostic Proficiency Testing

# Survey 2016 - Switzerland

# Final Report

**prepared by**
**Brian Fowler**

## 1. Geographical distribution of participants

In 2016, 21 laboratories from 11 countries subscribed to the scheme. All laboratories submitted results for both sample batches.

| Country | Number of participants |
|---|---|
| Australia | 2 |
| Austria | 2 |
| Canada | 3 |
| China | 1 |
| Estonia | 1 |
| Germany | 3 |
| Norway | 1 |
| Sweden | 2 |
| Switzerland | 1 |
| USA | 4 |
| UK | 1 |

## 2. Samples and Shipment

The samples have been heat-treated. They were pre-analysed in our institute after 3 days incubation at ambient temperature (to mimic possible changes that might arise during transport). In all six samples the typical metabolic profiles were preserved after this process.
This year, in addition to the common sample and those originating from our own centre, **samples were donated by: K. Ounap, Tartu, Estonia; S. Scholl-Bürgi, Innsbruck, Austria,** to whom we express our gratitude.
The urine samples were distributed to participants on February 2nd at ambient temperature by CSCQ using the courier DHL. Delivery times of samples reported by the courier were all within a maximum of five days although 5 labs reported later receipt dates suggesting possible internal delays within the institution (see below).

## 3. Tests

Ability to analyse amino acids, organic acids, mucopolysaccharides, oligosaccharides and purines/pyrimidines was required in 2016.

## 4. Schedule of the scheme in 2016

| | |
|---|---|
| Sample distribution | Feb 1st 2016 |
| Start of analysis of Survey 2016/1 | Feb 22nd, 2016 |
| Survey 2016/1 - Results submission | March 14th, 2016 |
| Survey 2016/1 - Reports on website | May15th, 2016 |
| Start of analysis of Survey 2016/2 | May 23rd , 2016 |
| Survey 2016/2 – Results submission | June 6th , 2016 |
| Survey 2016/2 - Reports on website | July 31st , 2016 |
| Annual meeting of participants | SSIEM, Rome, September 6, 2016 |
| Annual Report 2016 | December 2016 |

We continued to use the evaluation programme to generate individual lab reports and these were made available on the CSCQ website in good time close to the foreseen dates. Feedback on the content and style of these reports is invited.

## 5. Receipt of samples and results

**Receipt of samples** (sent on Feb 02, 2016)

| Date after shipment | Delivery reported by courier | Delivery reported by participants |
|---|---|---|
| 03 Feb | 10 | 7 |
| 04 Feb | 8 | 7 |
| 05 Feb | 1 | - |
| 08 Feb | 2 | 1 |
| 11 Feb | | 1 |
| 16 Feb | | 1 |
| 19 Feb | | 1 |
| 22 Feb | | 1 |
| 16 May !! | | 1 |
| ? | | 1 |

Discrepancies must be due to delays within the institution or incorrect recording on result submission. Specific details regarding your own sample are available on request.

**Date of reporting of results**

All labs returned results for the first and second surveys respectively and by the deadline.

## 6. Scoring system

**Two criteria** are evaluated: analytical performance, interpretative proficiency including recommendations for further investigations. Due to the large variability in reporting results in various countries, recommendations pertaining to treatment are not evaluated in proficiency testing, however they may be considered by the scheme organisers in evaluating interpretation.

| | | | | |
|---|---|---|---|---|
| **A** | Analytical performance | Correct results of the appropriate tests | 2 | max 2 |
| | | Partially correct or non-standard methods | 1 | |
| | | Unsatisfactory or misleading | 0 | |
| **I** | Interpretative proficiency & Recommendations | Good (diagnosis was established) | 2 | max 2 |
| | | Helpful but incomplete | 1 | |
| | | Misleading or wrong diagnosis | 0 | |

The **total score** is calculated as a sum of these two criteria. The maximum to be achieved is 4 points per sample. The scores were calculated only for laboratories submitting results.

# 7. Results of samples and evaluation of reporting

## Sample A: Hyperoxaluria type 2

**Patient details provided**
*At the age of 5 years this boy was referred for the first time to a pediatric nephrologist, because of urolithiasis. At ages 7 and 10, again renal stones were found. At the time of the urine collection, he was 10 y old and in good health. He used no medication, had a normal diet and adequate renal function.*

**Further information**
This was the common sample, distributed by the DPT centre in the Netherlands and came from a child with Hyperoxaluria type 2 due to glyoxylate reductase deficiency caused by mutations in the GRHPR gene.

**Analytical performance:**
The finding of increased glyceric acid (20 labs) and of oxalic acid (10 labs) each scored one point.

**Interpretative proficiency**
Glyceric aciduria due to hyperoxaluria was considered to be correct and scored two points (20 labs). The finding of no abnormality without a recommendation to measure oxalate was incorrect and received no point (1 lab).

**Overall impression:** High proficiency although half of labs did not find elevated oxalate, possibly related to organic acid extraction problems.

***This sample was considered by the SAB to be eligible for critical error.***

### Analytical Details

**Creatinine**
n=21
median= 4.64
mean= 4.60
SD= 0.02
min, max= [4.31, 4.86]

**pH**
n=10
median= 6.25
mean= 6.25
SD= 0.06
min, max= [6.00, 6.50]

**Spot tests**
All negative.

**Organic Acid Analysis**

| | n | points |
|---|---|---|
| Glyceric acid | 20 | 1 |
| Oxalic acid | 10 | 1 |

**Glyceric acid**
n=11
median= 1000.00
mean= 915.10
SD= 785.34
min, max= [17.40, 2731.00]

**Oxalic acid**
n=5
median= 222.00
mean= 254.00
SD= 178.03
min, max= [11.00, 465.00]

**Interpretation**

| | n | Points |
|---|---|---|
| Glyceric aciduria due to hyperoxaluria | 20 | 2 |
| No abnormality without rec. for oxalate measurement | 1 | 0 |

Full details of the results of this common sample are to be found on the ERNDIM website with the following link:

http://www.erndim.org/store/docs/ERNDIMDPTcommonsample201-ANUUFFEB114938-07-11-2016.pdf

## Sample B: HMG-CoA-lyase deficiency

**Patient details provided:**
*Normal delivery, metabolic decompensation with acidosis at 2 days. Urine collected on treatment.*

**Further information**
Normal delivery, metabolic decompensation with marked acidosis and hyperammonaemia at 2 days, muscular hyptonicity and general deterioration, poor feeding, tachydyspnea. Urine collected on treatment. Diagnosis confirmed by enzyme assay. Mutation analysis showed homozygosity for p.E37X.

**Analytical performance*:***
The finding of increased 3-Hydroxy-3-methyl glutaric acid (20 labs) with or without associated metabolites was scored with two points.

**Interpretative proficiency:**
A diagnosis of 3-hydroxy-3-methylCoA lyase deficiency was correct and received two points.

**Overall impression**
There was very high proficiency of a straightforward sample.

***This was considered by the SAB to be eligible for critical error.***

**Analytical Details**

**Creatinine**
n=21
median= 2.79
mean= 2.75
SD= 0.01
min, max= [2.36, 2.95]

**pH**
n=10
median= 7.00
mean= 7.05
SD= 0.02
min, max= [7.00, 7.50]

**Spot tests**
All negative

**Organic acid analysis**

| | n | points |
|---|---|---|
| 3-Hydroxy-3-methyl glutaric acid | 20 | 2 |
| 3-methylglutaconic acid | 1 | 1 |
| | | |

**Quantitative data submitted**

**3-hydroxy-3-methylglutaric acid**
n=7
median= 1163.00
mean= 1643.11
SD= 1303.35
min, max= [170.00, 4598.00]

**3-methylglutaconic acid**
n=8
median= 1127.45
mean= 1163.61
SD= 509.29
min, max= [413.00, 2093.00]

**Quantitative data submitted continued**

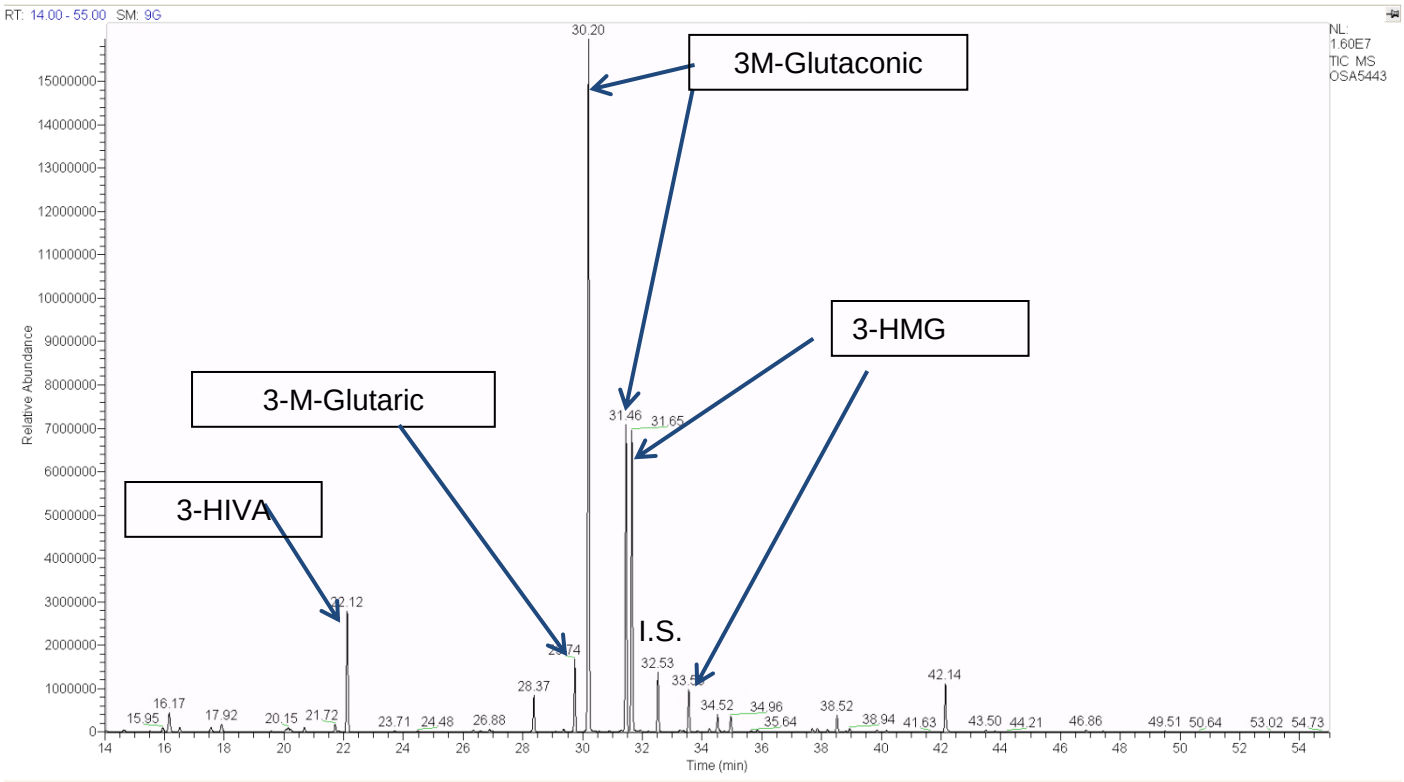
| **3-methylglutaric acid** |
|---|
| n=9 |
| median= 141.00 |
| mean= 156.21 |
| SD= 43.93 |
| min, max= [119.00, 270.00] |

| **3-hydroxyisovaleric acid** |
|---|
| n=8 |
| median= 477.50 |
| mean= 700.70 |
| SD= 614.95 |
| min, max= [90.00, 2059.00] |

**Interpretation**

| | n | Points |
|---|---|---|
| HMGCoA lyase deficiency | 20 | 2 |
| 3 methylglutaconylCoA hydratase deficiency | 1 | 0 |

Organic acids - GC-MS



## Sample C: Cystine / dibasic aminoaciduria

**Patient details provided:**
*Asymptomatic sibling of older sister who initially presented at 2y with strange urine odour, otherwise unremarkable.*

**Further information**
12 year old girl diagnosed at age 4 years, incidentally being asymptomatic, no mutation analysis, no complications while under treatment.

**Analytical performance*:***

Increased cysteine and basic amino acids was scored with two points (19 labs).

**Interpretative proficiency:**
A diagnosis of cystinuria received two points, unspecified dibasic aminoaciduria was scored with one point.

**Overall impression**

A straightforward sample with high proficiency, if not as high as expected.

***Sample from probable heterozygous cystinuria and considered by the SAB not to be eligible for critical error.***

**Analytical Details**

**Creatinine**
n=21
median= 1.42
mean= 1.43
SD= 0
min, max= [1.27, 1.55]

**pH**
n=11
median= 9.00
mean= 9.00
SD= 0.15
min, max= [8.50, 10.00]

**Spot tests**

Two labs reported increased sulphides.

**Amino acid analysis**

**Cystine**
n=19
median= 143.00
mean= 190.74
SD= 214.41
min, max= [43.00, 1093.00]

**Lysine**
n=19
median= 388.00
mean= 559.88
SD= 728.14
min, max= [110.00, 3629.00]

**Arginine**
n=17
median= 16.60
mean= 27.67
SD= 47.15
min, max= [7.00, 216.00]

**Ornithine**
n=19
median= 40.00
mean= 54.34
SD= 65.43
min, max= [13.00, 330.00]

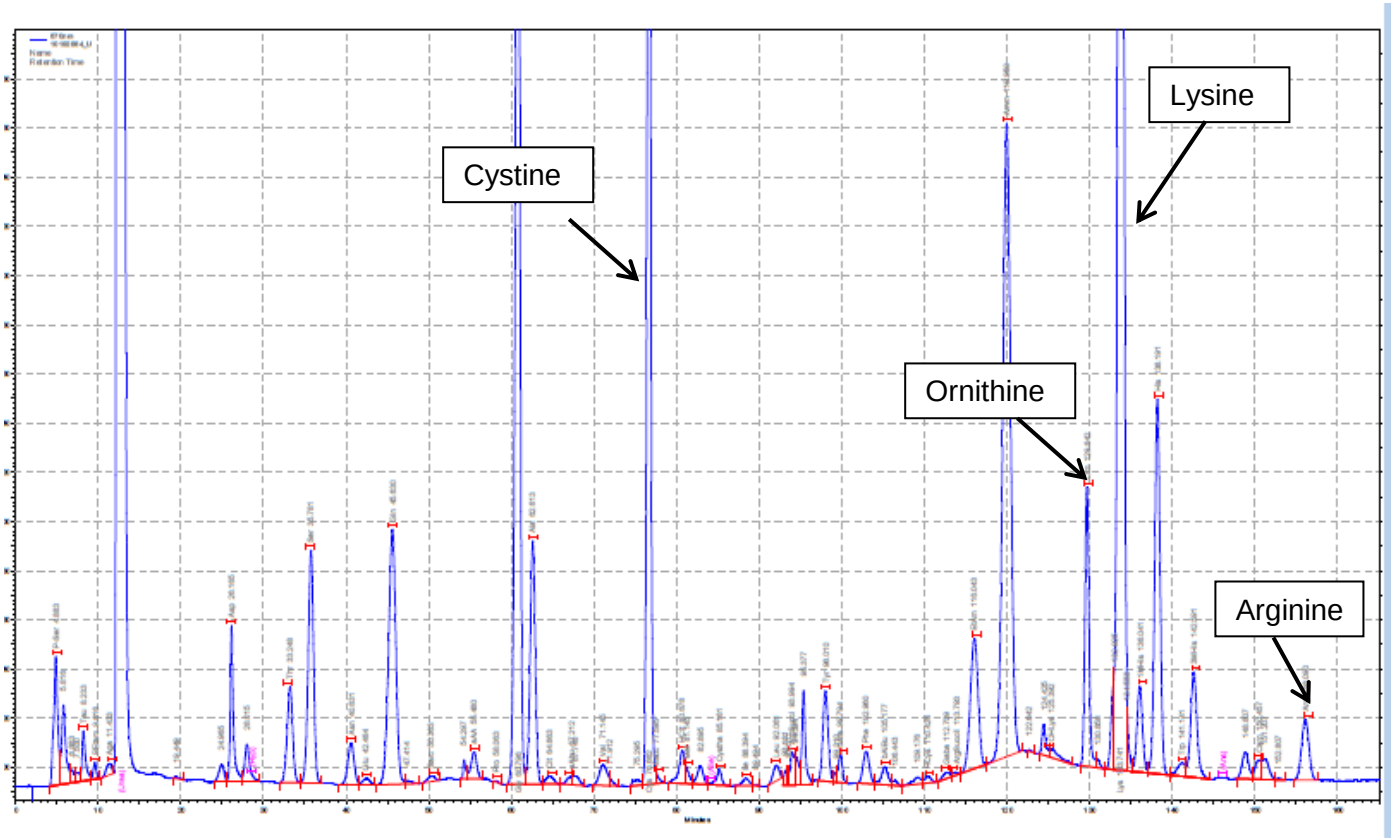
**Amino acid analysis continued**

| | n | points |
|---|---|---|
| Cystine / Basic amino acids | 19 | 2 |
| No abnormality | 2 | 0 |

**Interpretation**

| | n | Points |
|---|---|---|
| Cystinuria | 18 | 2 |
| "dibasic aminoaciduria, unspecified" | 1 | 1 |
| Trimethylaminuria | 1 | 0 |
| No diagnosis given | 1 | 0 |

Amino Acids – Ion Exchange



## Sample D: Ornithine aminotransferase deficiency: OMIM 258870

**Patient details provided:**
*16 year old male patient in good general condition and normal intellectual status with myopia since 5y. (urine collected on treatment).*

**Further information**
16 year old male patient in good general condition and normal intellectual status with myopia which has been continually worsening since the age of 5. Two and a half year delay in bone age assessed at the age of 15. Ophthalmological examination shows myopic astigmatism and gyrate atrophy of the choroid and retina. Plasma ornithine 877 µmol/l. Homozygous mutation of the ornithine aminotransferase gene (c.498C>A in Exon 4, p.Tyr166Ter), treated with protein-restricted diet, vitamin B6 and creatine supplementation

**Analytical performance:**

The finding of increased ornithine (19 labs) was scored with two points.

**Interpretative proficiency:**

All labs that identified increased ornithine made the correct diagnosis of hyperornithininemia, scored with two points (19 labs).No diagnosis but recommendation to measure plasma amino acids received one point.

**Overall impression:**

There was high overall efficiency with this sample which showed a moderately, but not greatly elevated level of ornithine. Just two labs failed to report this and one of these gave a correct recommendation to check plasma amino acids.

***Sample considered by the SAB not to be eligible for critical error.***

**Analytical Details**

**Creatinine**
n=20
median= 12.11
mean= 11.96
SD= 0.91
min, max= [9.21, 13.29]

**pH**
n=10
median= 8.00
mean= 8.10
SD= 0.09
min, max= [8.00, 9.00]

**Spot tests**

All negative

**Amino acid analysis (**n= 21)

| | n | points |
|---|---|---|
| Ornithine elevated | 19 | 2 |
| Amino acids normal | 2 | 0 |

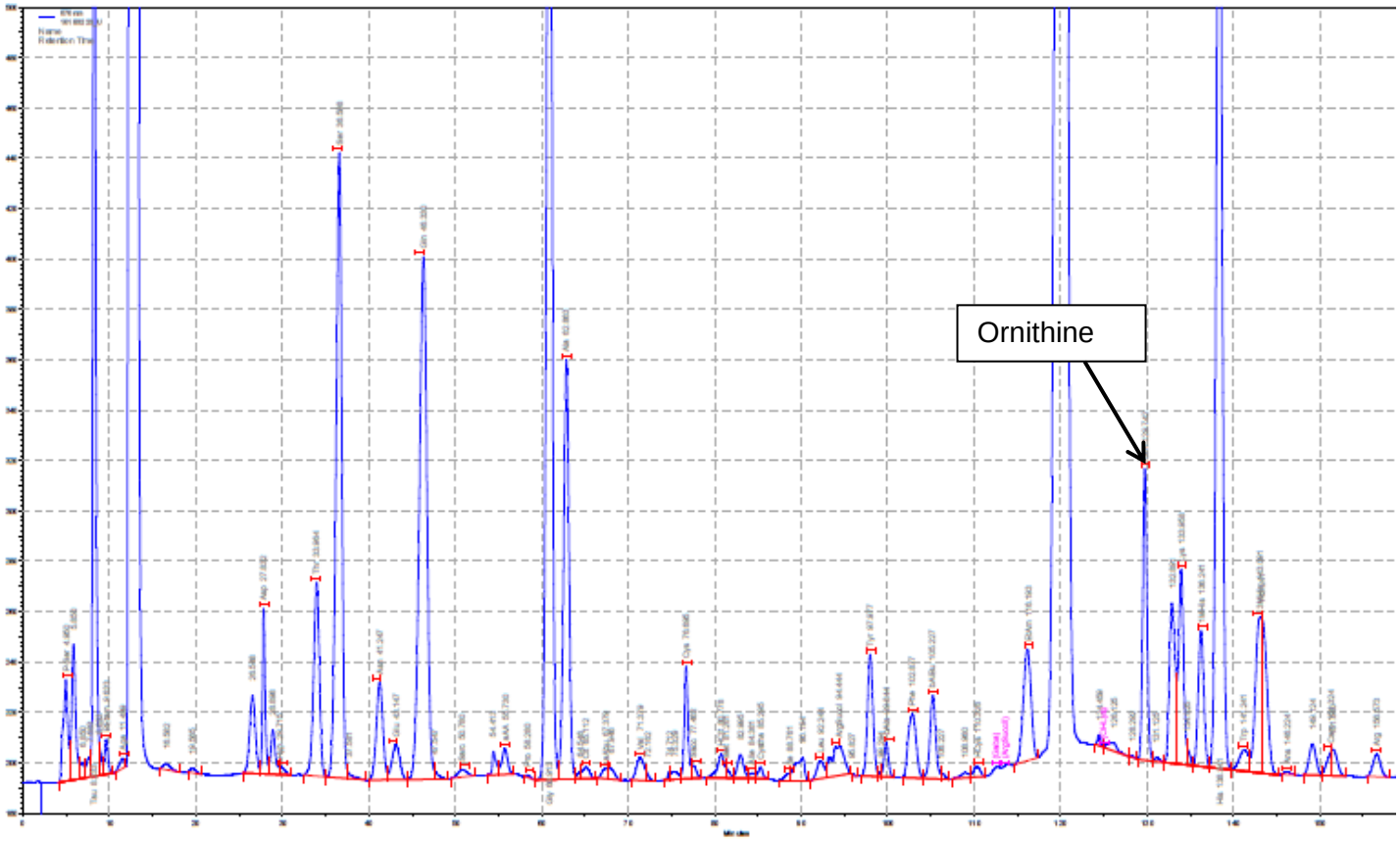
**Amino acid analysis**

**Ornithine**
n=19
median= 19.60
mean= 25.74
SD= 28.41
min, max= [8.00, 145.00]

**Interpretation**

| | n | Points |
|---|---|---|
| Hyperornithinemia | 19 | 2 |
| No diagnosis with recommendation to measure plasma amino acids | 1 | 1 |
| No diagnosis | 1 | 0 |

Amino Acids – Ion exchange



## Sample E: argininosuccinate lyase deficiency: OMIM 207900

**Patient details provided:**
*Normal delivery, vomiting and somnolence at 3 days of age. Urine collected on treatment.*

**Further information**
This is a treated case of ASAuria confirmed by mutation analysis.
(p.Glu189Gly/p.Gly316Aspfs*24)

**Analytical performance*:*** The finding of elevated arginino-succinic acid was scored with two points (21 labs).

**Interpretative performance**

All labs made the correct diagnosis of argininosuccinic aciduria due to argininosuccinate lyase deficiency

**Overall impression:**

Excellent proficiency of 100%.

***The SAB considered that this sample would have been eligible for critical error***.

**Analytical Details**

**Creatinine**
n=20
median= 5.93
mean= 5.78
SD= 0.30
min, max= [3.99, 6.38]

**pH**
n=10
median= 8.00
mean= 8.30
SD= 0.17
min, max= [8.00, 9.00]

**Spot tests**
All negative

**Amino acid analysis (**n= 21)

| | n | points |
|---|---|---|
| Elevated arginino-succinic acid | 21 | 2 |
| | | |

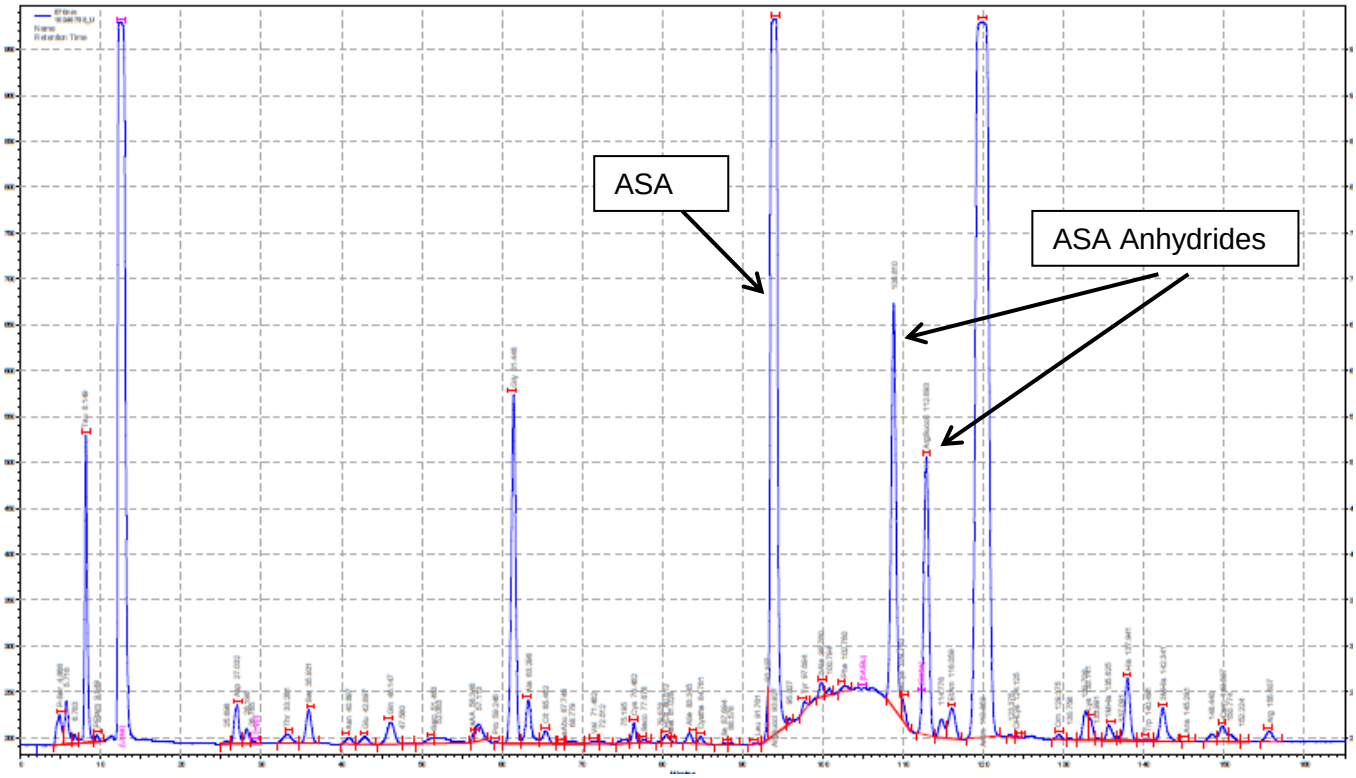
**Arginino-succinic acid**
n=13
median= 2300.00
mean= 2849.13
SD= 2610.12
min, max= [18.48, 9316.00]

**ASA anhydrides**
n=2
median= 1750.00
mean= 1750.00
SD= 450.00
min, max= [1300.00, 2200.0]

**Interpretation**

| | n | Points |
|---|---|---|
| Arginino-succinic aciduria | 21 | 2 |

Amino Acids – Ion Exchange



## Sample F: Aromatic L-Aminoacid Decarboxylase (AADC) deficiency

**Patient details provided:**
*Developmental delay and muscular hypotonia, no treatment*
.
**Further information**
At 3 months showed developmental delay and muscular hypotonia. At 9 months hypotonia confirmed, brisk tendon reflexes and positive Babinski sign, not turning over or crawling, no head control. Diagnosed at 9.5 years with failure to thrive, and severe developmental delay, (lack of speech and spastic tetraparesis and dystonias evident).
Urinary DOPA was greatly elevated but vanillactate not dramatically elevated at 2.6 mmol/mol creatinine.
Diagnosis was confirmed by enzyme and molecular analysis.
This sample showed mildly increased excretion of vanillactate of 0.55 mmol/mol creatinine (normal in adults <0,08 mmol/mol creatinine).

**Analytical performance*:***

Performance was low since the key metabolite for this disorder was reported to be increased by just three labs.

**Interpretative proficiency:**
Those three labs that found increased vanillactate made the correct diagnosis of aromatic L-Aminoacid Decarboxylase (AADC) deficiency.

**Overall impression:**
This was clearly a very difficult sample that will NOT be scored. Nevertheless it did contain a slightly increased level of the key metabolite, vanillactic acid pointing to the need to look for this very carefully in organic acid analysis. Further, if quantitated. control values must be age matched.

***This sample was considered by the SAB to be educational and not eligible for critical error.***

**Analytical Details**

**Creatinine**
n=20
median= 12.90
mean= 12.95
SD= 0.30
min, max= [11.74, 13.83]

**pH**
n=10
median= 6.00
mean= 5.70
SD= 0.28
min, max= [5.00, 6.50]

**Spot tests**
All negative

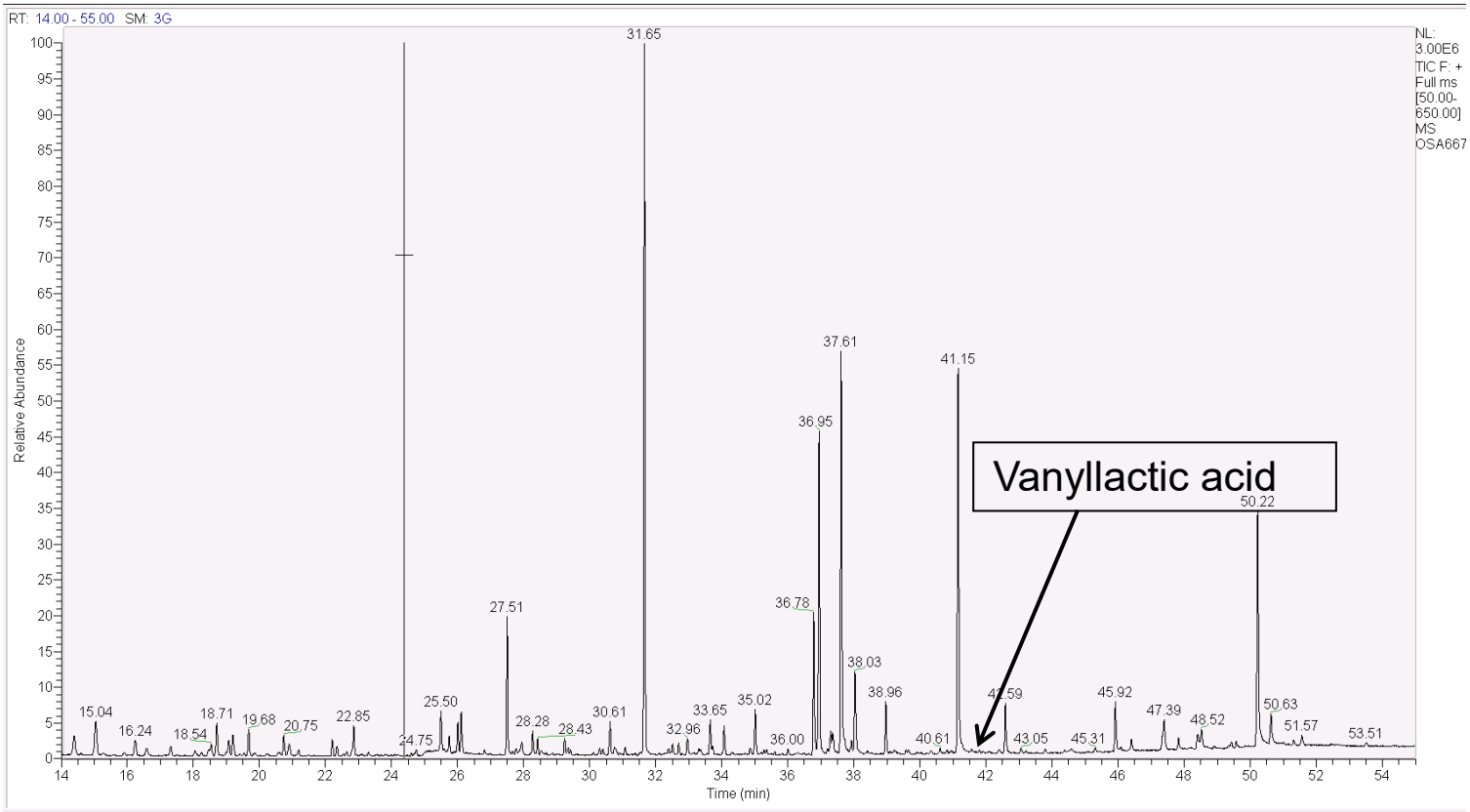
**Organic acid analysis**

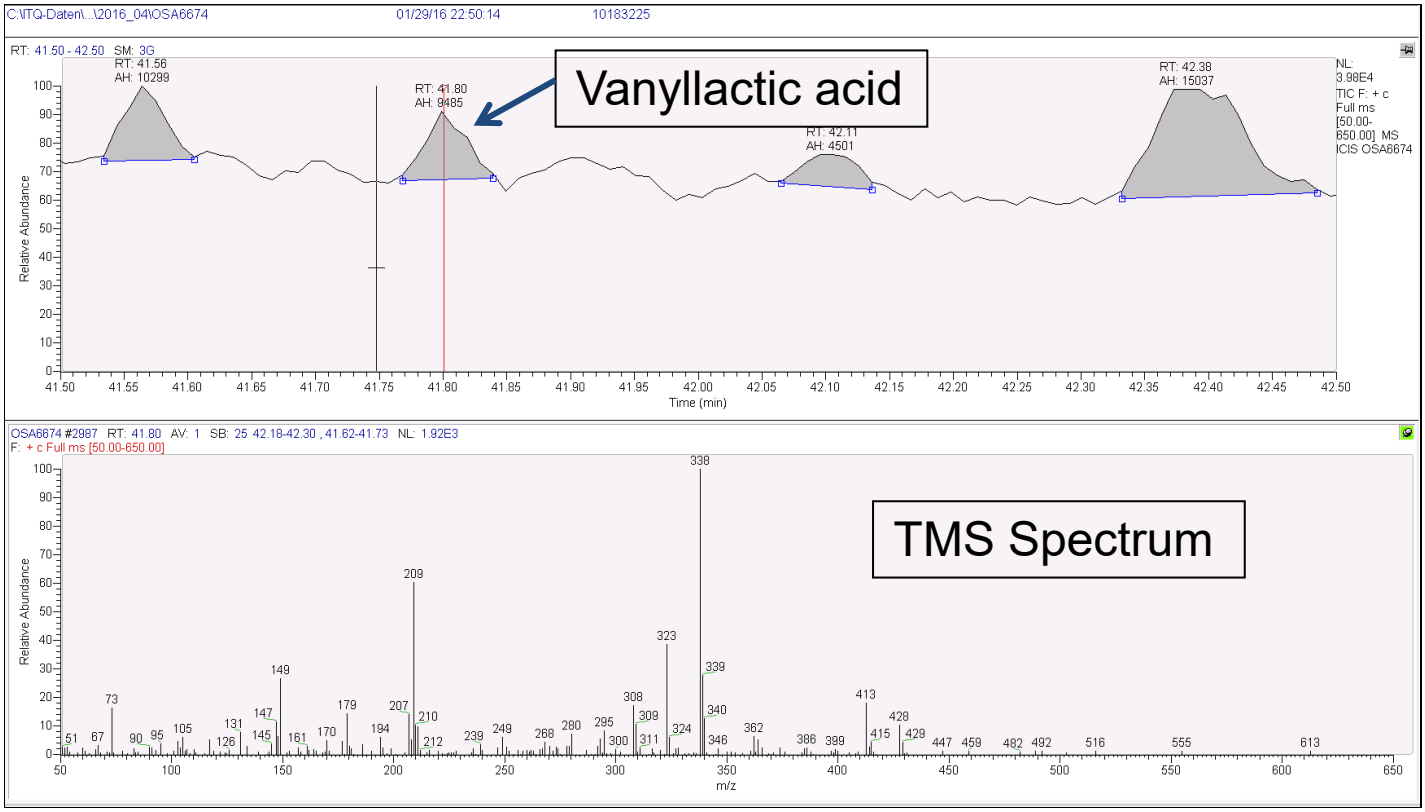
| | n | points |
|---|---|---|
| **Vanillactic acid elevated** | 3 | 2 |

**nterpretation**

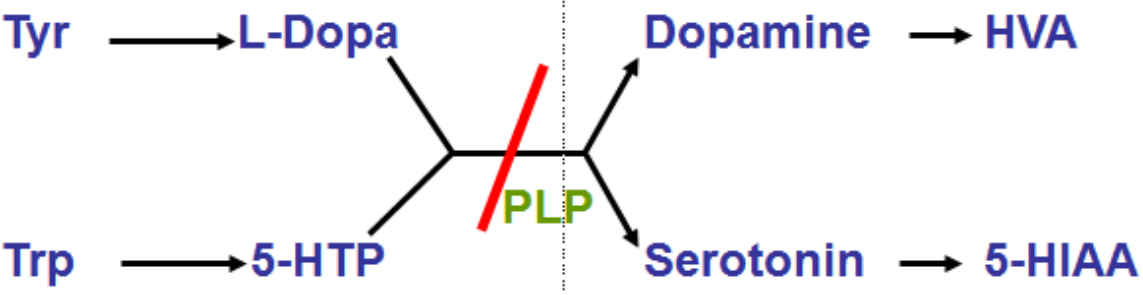
| | n | Points |
|---|---|---|
| aromatic L-Aminoacid Decarboxylase (AADC) deficiency | 3 | 2 |
| No abnormality / Normal | 13 | 0 |
| Pu/Py disorder | 2 | 0 |
| Biotinidase deficiency | 1 | 0 |
| CDG Syndrome | 1 | 0 |
| MPS III | 1 | 0 |

## Organic acids - GC-MS






## Aromatic Amino Acid Decarboxylase Deficiency




Clinical features resemble those of recessive BH4 deficiency; hypotonia, oculogyric crises, ptosis and paucity of spontaneous movement. Can be fatal

Urine: Vanill-lactic acid (Organic acid analysis)

*CSF*: Low HVA + 5-HIAA, but *normal* pterin profile and accumulation of 3-*O-methyldopa*. Enzymatic analysis possible on plasma.

Treatment; B6, MAOI & dopamine agonists.

# 8. Scores

### Overall proficiency

| Sample | Diagnosis | A (%) | I (%) | total (%) |
|---|---|---|---|---|
| A | Hyperoxaluria type 2 | 74 | 95 | 85 |
| B | HMG-CoA-lyase deficiency | 98 | 95 | 96 |
| C | Cystine / dibasic aminoaciduria | 90 | 88 | 89 |
| D | Ornithine aminotransferase deficiency | 90 | 93 | 92 |
| E | argininosuccinate lyase deficiency | 100 | 100 | 100 |
| F | Aromatic L-Aminoacid Decarboxylase (AADC) deficiency | 14 | 14 | 14 |

### Total scores

| | Survey 1 | | | Survey 2 | | | |
|---|---|---|---|---|---|---|---|
| Lab No | A | B | C | D | E | F | Total (F not scored |
| 1 | 4 | 4 | 4 | 4 | 4 | 0 | 20 |
| 2 | 4 | 4 | 4 | 4 | 4 | 0 | 20 |
| 3 | 3 | 4 | 4 | 4 | 4 | 0 | 19 |
| 4 | 4 | 4 | 4 | 4 | 4 | 0 | 20 |
| 5 | 3 | 4 | 4 | 4 | 4 | 0 | 19 |
| 6 | 4 | 1 | 4 | 4 | 4 | 0 | 17 |
| 7 | 4 | 4 | 4 | 4 | 4 | 0 | 20 |
| 8 | 4 | 4 | 4 | 4 | 4 | 0 | 20 |
| 9 | 3 | 4 | 0 | 4 | 4 | 0 | 15 |
| 10 | 4 | 4 | 0 | 0 | 4 | 0 | 12 |
| 11 | 3 | 4 | 3 | 4 | 4 | 0 | 18 |
| 12 | 3 | 4 | 4 | 4 | 4 | 4 | 19 |
| 13 | 0 | 4 | 4 | 4 | 4 | 0 | 16 |
| 14 | 3 | 4 | 4 | 4 | 4 | 0 | 19 |
| 15 | 3 | 4 | 4 | 1 | 4 | 0 | 16 |
| 16 | 3 | 4 | 4 | 4 | 4 | 0 | 19 |
| 17 | 4 | 4 | 4 | 4 | 4 | 4 | 20 |
| 18 | 4 | 4 | 4 | 4 | 4 | 0 | 20 |
| 19 | 4 | 4 | 4 | 4 | 4 | 0 | 20 |
| 20 | 3 | 4 | 4 | 4 | 4 | 0 | 19 |
| 21 | 4 | 4 | 4 | 4 | 4 | 4 | 20 |

The scores proposed by us were evaluated by a second advisor and confirmed at the Scientific Advisory Board meeting in November 2016. At this meeting the cut off point for satisfactory performance was set (see below). Labs failing to reach this mark or making a critical error will receive a performance advice letter.

Detailed Scores: A,B,C

| Lab no | Sample A Hyperoxaluria II | | | Sample B HMG CoA lyase ef. | | | Sample C Cystinuria | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | A | I | Total | A | I | Total | A | I | Total | Total |
| 1 | 2 | 2 | 4 | 2 | 2 | 4 | 2 | 2 | 4 | 12 |
| 2 | 2 | 2 | 4 | 2 | 2 | 4 | 2 | 2 | 4 | 12 |
| 3 | 1 | 2 | 3 | 2 | 2 | 4 | 2 | 2 | 4 | 11 |
| 4 | 2 | 2 | 4 | 2 | 2 | 4 | 2 | 2 | 4 | 12 |
| 5 | 1 | 2 | 3 | 2 | 2 | 4 | 2 | 2 | 4 | 11 |
| 6 | 2 | 2 | 4 | 1 | 0 | 1 | 2 | 2 | 4 | 9 |
| 7 | 2 | 2 | 4 | 2 | 2 | 4 | 2 | 2 | 4 | 12 |
| 8 | 2 | 2 | 4 | 2 | 2 | 4 | 2 | 2 | 4 | 12 |
| 9 | 1 | 2 | 3 | 2 | 2 | 4 | 0 | 0 | 0 | 7 |
| 10 | 2 | 2 | 4 | 2 | 2 | 4 | 0 | 0 | 0 | 8 |
| 11 | 1 | 2 | 3 | 2 | 2 | 4 | 2 | 1 | 3 | 10 |
| 12 | 1 | 2 | 3 | 2 | 2 | 4 | 2 | 2 | 4 | 11 |
| 13 | 0 | 0 | 0 | 2 | 2 | 4 | 2 | 2 | 4 | 8 |
| 14 | 1 | 2 | 3 | 2 | 2 | 4 | 2 | 2 | 4 | 11 |
| 15 | 1 | 2 | 3 | 2 | 2 | 4 | 2 | 2 | 4 | 11 |
| 16 | 1 | 2 | 3 | 2 | 2 | 4 | 2 | 2 | 4 | 11 |
| 17 | 2 | 2 | 4 | 2 | 2 | 4 | 2 | 2 | 4 | 12 |
| 18 | 2 | 2 | 4 | 2 | 2 | 4 | 2 | 2 | 4 | 12 |
| 19 | 2 | 2 | 4 | 2 | 2 | 4 | 2 | 2 | 4 | 12 |
| 20 | 1 | 2 | 3 | 2 | 2 | 4 | 2 | 2 | 4 | 11 |
| 21 | 2 | 2 | 4 | 2 | 2 | 4 | 2 | 2 | 4 | 12 |
| ratio | 31/42 | 40/42 | **71/84** | 41/42 | 40/42 | **81/84** | 38/42 | 3742 | **75/84** | |
| % | 74 | 95 | 85 | 98 | 95 | 96 | 90 | 88 | 89 | |

Detailed Scores: D,E,F

| Lab no | Sample D Hyperornithinaemia | | | Sample E ASAuria | | | Sample F AADC def. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | A | I | Total | A | I | Total | A | I | Total | Total |
| 1 | 2 | 2 | 4 | 2 | 2 | 4 | 0 | 0 | 0 | 8 |
| 2 | 2 | 2 | 4 | 2 | 2 | 4 | 0 | 0 | 0 | 8 |
| 3 | 2 | 2 | 4 | 2 | 2 | 4 | 0 | 0 | 0 | 8 |
| 4 | 2 | 2 | 4 | 2 | 2 | 4 | 0 | 0 | 0 | 8 |
| 5 | 2 | 2 | 4 | 2 | 2 | 4 | 0 | 0 | 0 | 8 |
| 6 | 2 | 2 | 4 | 2 | 2 | 4 | 0 | 0 | 0 | 8 |
| 7 | 2 | 2 | 4 | 2 | 2 | 4 | 0 | 0 | 0 | 8 |
| 8 | 2 | 2 | 4 | 2 | 2 | 4 | 0 | 0 | 0 | 8 |
| 9 | 2 | 2 | 4 | 2 | 2 | 4 | 0 | 0 | 0 | 8 |
| 10 | 0 | 0 | 0 | 2 | 2 | 4 | 0 | 0 | 0 | 4 |
| 11 | 2 | 2 | 4 | 2 | 2 | 4 | 0 | 0 | 0 | 8 |
| 12 | 2 | 2 | 4 | 2 | 2 | 4 | 2 | 2 | 4 | 12 |
| 13 | 2 | 2 | 4 | 2 | 2 | 4 | 0 | 0 | 0 | 8 |
| 14 | 2 | 2 | 4 | 2 | 2 | 4 | 0 | 0 | 0 | 8 |
| 15 | 0 | 1 | 1 | 2 | 2 | 4 | 0 | 0 | 0 | 8 |
| 16 | 2 | 2 | 4 | 2 | 2 | 4 | 0 | 0 | 0 | 8 |
| 17 | 2 | 2 | 4 | 2 | 2 | 4 | 2 | 2 | 4 | 12 |
| 18 | 2 | 2 | 4 | 2 | 2 | 4 | 0 | 0 | 0 | 8 |
| 19 | 2 | 2 | 4 | 2 | 2 | 4 | 0 | 0 | 0 | 8 |
| 20 | 2 | 2 | 4 | 2 | 2 | 4 | 0 | 0 | 0 | 8 |
| 21 | 2 | 2 | 4 | 2 | 2 | 4 | 2 | 2 | 4 | 12 |
| ratio | 38/42 | 39/42 | **77/84** | 42/42 | 42/42 | **84/84** | 6/42 | 6/42 | **12/84** | |
| % | 90 | 93 | 92 | 100 | 100 | 100 | 14 | 14 | 14 | |

## 9. Assessment of performance

Steps have been taken within the Scientific Advisory Board of ERNDIM to set the level of good performance within a proficiency scheme. Letters of support to those laboratories with clear poor performance will be issued. The level for satisfactory performance for this year was set at the SAB meeting in November. A special meeting of scientific advisors took place in November 2012 to consider how to harmonise scoring within all our qualitative schemes and the question of introducing critical errors in our schemes. Here it was decided to incorporate recommendations into interpretation giving a 2 plus 2 scoring system. Also the concept of **critical error** was introduced in 2014**.** Thus labs failing to make a correct diagnosis of a sample considered as eligible for this category will be deemed not to have reached a satisfactory performance even if their total points for the year exceed the limit set at the SAB.
This year samples **A, B** and **E** qualified as possible critical error.
Sample F was judged to be educational and its scores were not included in assessment of overall performance. Thus the level set for **satisfactory performance is twelve points** and below this is evaluated as unsatisfactory.

## 10. Annual meeting

The annual meeting of participants of this DPT centre took place, alongside those of the other four centres. during the SSIEM symposium in Rome on Tuesday, September 6th, 09.00. This was attended by 31 participants representing 14 centres. The agenda included:

- Discussion of organisational aspects, samples, delivery problems, and any requests for reporting improvements.
- Results of the individual samples, consensus on scoring and participants' performance.
- Overall performance and scores.
- Proposals for critical error samples.
- Future perspectives.
- DPT meeting in 2017: since there will be no SSIEM meeting in 2017 but the ICIEM in Brazil it is planned to hold an extended ERNDIM meeting which will also include the DPT meetings in late 2017 (it is envisaged that this will take place on November 21/22 2017.

## 11. Changes planned for 2017

No changes are envisaged

## 12. Tentative schedule and fee in 2017

| | |
|---|---|
| Sample distribution | February 6th, 2017 |
| Start of analysis of Survey 2017/1 | February 20th, 2017 |
| Survey 2017/1 - Results submission | March 13th, 2017 |
| Survey 2017/1 - Reports | May 15th, 2017 |
| Start of analysis of Survey 2017/2 | May 22nd, 2017 |
| Survey 2017/2 – Results submission | June 12th, 2017 |
| Survey 2017/2 - Reports | July 31st, 2017 |
| Annual meeting of participants | ERNDIM meeting November 21/22 2017 |
| Annual Report 2017 | December 2017 |

Fee was set at €416.

## 13. ERNDIM certificate of participation

A combined certificate of participation covering all EQA schemes will be provided to all participants who take part in any ERNDIM scheme. For the DPT scheme this certificate will indicate if results were submitted and whether satisfactory performance was achieved in the scheme.

Basel / Zürich, January 2017

Brian Fowler
Scientific advisor