

Summary statistics - quantitative results

(Groups: measurement principle)

Filter: minimal size of the groups n = 5

EQA round: TE2/21 - Trace Elements

Deadline: 27.09.2021

| | | |
|--|--|--|
| RoM = robust average | AV = assigned value | Dmax = acceptable percent difference |
| SD = standard deviation | CRV = certified reference value | LL = lower limit |
| CV = coefficient of variation | RV = reference value | UL = upper limit |
| Ntot = total number of the participants | CVE = consensus value from experts | Neva = number of evaluated participants |
| Nout = number of results excluded before calculation | CVP = consensus value from all participants | Nsuc = number of successful participants |
| | CVPG = consensus value from participants groups | Srel = success (relative) |
| | U _{AV} = expanded uncertainty of the assigned value (k = 2) | |

| Test | [unit] | | | | | | Comparability | | | | | | | |
|-----------------------|----------|-------|-------|--------|------------------|------------------|---------------|-----------------|------------------|-------|------|------------------|------------------|------------------|
| | | RoM | SD | CV [%] | N _{tot} | N _{out} | AV | U _{AV} | D _{max} | LL | UL | N _{eva} | N _{suc} | S _{rel} |
| Set 1 (plasma) | | | | | | | | | | | | | | |
| (361) Al - plasma | [µmol/L] | | | | 2 | | | | | | | 2 | 1 | 50% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A1 | | 0,707 | 0,083 | 12 | 2 | CVE | 0,904 | 0,078 | 25% | 0,678 | 1,13 | 2 | 1 | 50% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| Sample B1 | | 1,19 | 0,16 | 13 | 2 | CVE | 1,51 | 0,096 | 25% | 1,13 | 1,89 | 2 | 1 | 50% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| (360) Co - plasma | [nmol/L] | | | | 2 | | | | | | | 2 | 2 | 100% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A1 | | 95,3 | 2,6 | 2,7 | 2 | CVE | 112 | 6,3 | 25% | 84 | 140 | 2 | 2 | 100% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| Sample B1 | | 186 | 0,700 | 38 | 2 | CVE | 227 | 11 | 25% | 170 | 284 | 2 | 2 | 100% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| (367) Cr - plasma | [nmol/L] | | | | 2 | | | | | | | 2 | 2 | 100% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A1 | | 204 | 18 | 8,6 | 2 | CVE | 193 | 13 | 25% | 144 | 242 | 2 | 2 | 100% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| Sample B1 | | 525 | 50 | 9,4 | 2 | CVE | 604 | 32 | 25% | 453 | 755 | 2 | 2 | 100% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| (351) Cu - plasma | [µmol/L] | | | | 20 | | | | | | | 20 | 17 | 85% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A1 | | 15,0 | 2,1 | 14 | 20 | CVE | 16 | 0,77 | 25% | 12 | 20 | 20 | 18 | 90% |
| (2) ET-AAS | | 16,1 | 0,89 | 5,5 | 5 | 0 | | | | | | 5 | | |
| (5) Spectrophotometry | | 14,5 | 2,4 | 17 | 11 | 0 | | | | | | 11 | | |
| Other | | | | | 4 | 0 | | | | | | 4 | | |
| Sample B1 | | 19,3 | 3,1 | 16 | 20 | CVE | 20,1 | 0,85 | 25% | 15 | 25,2 | 20 | 18 | 90% |
| (2) ET-AAS | | 20,8 | 0,74 | 3,6 | 5 | 0 | | | | | | 5 | | |
| (5) Spectrophotometry | | 18,5 | 3,7 | 20 | 11 | 0 | | | | | | 11 | | |
| Other | | | | | 4 | 0 | | | | | | 4 | | |
| (359) Mg - plasma | [mmol/L] | | | | 2 | | | | | | | 2 | 2 | 100% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A1 | | 0,724 | 0,006 | 0,83 | 2 | CVE | 0,728 | 0,025 | 25% | 0,546 | 0,91 | 2 | 2 | 100% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| Sample B1 | | 0,945 | 0,025 | 2,6 | 2 | CVE | 0,93 | 0,025 | 25% | 0,697 | 1,17 | 2 | 2 | 100% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| (352) Mn - plasma | [nmol/L] | | | | 2 | | | | | | | 2 | 2 | 100% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A1 | | 36,7 | 3,2 | 8,7 | 2 | CVE | 41,9 | 3,6 | 25% | 31,4 | 52,4 | 2 | 2 | 100% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| Sample B1 | | 564 | 41 | 7,3 | 2 | CVE | 628 | 35 | 25% | 471 | 785 | 2 | 2 | 100% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| (355) Se - plasma | [µmol/L] | | | | 5 | | | | | | | 5 | 3 | 60% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A1 | | 0,900 | 0,015 | 1,6 | 5 | CVE | 0,866 | 0,048 | 25% | 0,649 | 1,09 | 5 | 3 | 60% |
| Other | | | | | 5 | 0 | | | | | | 5 | | |
| Sample B1 | | 1,59 | 0,096 | 6,1 | 5 | CVE | 1,54 | 0,084 | 25% | 1,15 | 1,93 | 5 | 4 | 80% |
| Other | | | | | 5 | 0 | | | | | | 5 | | |
| (350) Zn - plasma | [µmol/L] | | | | 18 | | | | | | | 18 | 18 | 100% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A1 | | 24,2 | 2,1 | 8,8 | 18 | CVE | 24,2 | 1,0 | 25% | 18,1 | 30,3 | 18 | 18 | 100% |
| (1) F-AAS | | 24,7 | 1,3 | 5,1 | 8 | 0 | | | | | | 8 | | |
| (5) Spectrophotometry | | 24,2 | 1,3 | 5,2 | 9 | 0 | | | | | | 9 | | |

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| Test | [unit] | | | | | | Comparability | | | | | | | |
|------------------------|----------|-------|-------|--------|------------------|------------------|---------------|-----------------|------------------|-------|-------|------------------|------------------|------------------|
| | | RoM | SD | CV [%] | N _{tot} | N _{out} | AV | U _{AV} | D _{max} | LL | UL | N _{eva} | N _{suc} | S _{rel} |
| (350) Zn - plasma | [µmol/L] | | | | 18 | | | | | | | 18 | 18 | 100% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A1 | | 24,2 | 2,1 | 8,8 | 18 | CVE | 24,2 | 1,0 | 25% | 18,1 | 30,3 | 18 | 18 | 100% |
| Other | | | | | 1 | 0 | | | | | | 1 | | |
| 1x 7 | | | | | | | | | | | | | | |
| Sample B1 | | 27,0 | 2,3 | 8,5 | 18 | CVE | 27 | 1,0 | 25% | 20,2 | 33,8 | 18 | 18 | 100% |
| (1) F-AAS | | 27,9 | 1,6 | 5,8 | 8 | 0 | | | | | | 8 | | |
| (5) Spectrophotometry | | 27,4 | 1,9 | 7,0 | 9 | 0 | | | | | | 9 | | |
| Other | | | | | 1 | 0 | | | | | | 1 | | |
| 1x 7 | | | | | | | | | | | | | | |
| Set 2 (blood) | | | | | | | | | | | | | | |
| (353) Cd - blood | [nmol/L] | | | | 2 | | | | | | | 2 | 1 | 50% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A2 | | 26,3 | 7,5 | 29 | 2 | CVE | 36,2 | 2,0 | 25% | 27,1 | 45,3 | 2 | 1 | 50% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| 1x 2, 1x 7 | | | | | | | | | | | | | | |
| Sample B2 | | 84,0 | 27 | 32 | 2 | CVE | 110 | 5,2 | 25% | 82,5 | 138 | 2 | 1 | 50% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| 1x 2, 1x 7 | | | | | | | | | | | | | | |
| (356) Hg - blood | [nmol/L] | | | | 2 | | | | | | | 2 | 2 | 100% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A2 | | 30,1 | 0,15 | 0,48 | 2 | CVE | 27,4 | 1,5 | 25% | 20,5 | 34,3 | 2 | 2 | 100% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| 1x 2, 1x 99 | | | | | | | | | | | | | | |
| Sample B2 | | 110 | 5,2 | 4,7 | 2 | CVE | 101 | 5,0 | 25% | 75,7 | 127 | 2 | 2 | 100% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| 1x 2, 1x 99 | | | | | | | | | | | | | | |
| (339) Mn - blood | [nmol/L] | | | | 1 | | | | | | | 1 | 0 | 0,00 |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A2 | | 149 | | | 1 | CVE | 206 | 13 | 25% | 154 | 258 | 1 | 0 | 0,00 |
| Other | | | | | 1 | 0 | | | | | | 1 | | |
| 1x 2 | | | | | | | | | | | | | | |
| Sample B2 | | 474 | | | 1 | CVE | 450 | 25 | 25% | 337 | 563 | 1 | 1 | 100% |
| Other | | | | | 1 | 0 | | | | | | 1 | | |
| 1x 2 | | | | | | | | | | | | | | |
| (354) Pb - blood | [nmol/L] | | | | 6 | | | | | | | 6 | 5 | 83% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A2 | | 608 | 50 | 8,1 | 6 | CVE | 638 | 27 | 25% | 478 | 798 | 6 | 6 | 100% |
| Other | | | | | 6 | 0 | | | | | | 6 | | |
| 4x 2, 1x 3, 1x 7 | | | | | | | | | | | | | | |
| Sample B2 | | 1180 | 130 | 11 | 6 | CVE | 1340 | 59 | 25% | 1000 | 1680 | 6 | 5 | 83% |
| Other | | | | | 6 | 0 | | | | | | 6 | | |
| 4x 2, 1x 3, 1x 7 | | | | | | | | | | | | | | |
| Set 3 (urine) | | | | | | | | | | | | | | |
| (348) Al - urine | [µmol/L] | | | | 1 | | | | | | | 1 | 1 | 100% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A3 | | 0,511 | | | 1 | CVE | 0,489 | 0,052 | 25% | 0,366 | 0,612 | 1 | 1 | 100% |
| Other | | | | | 1 | 0 | | | | | | 1 | | |
| 1x 7 | | | | | | | | | | | | | | |
| Sample B3 | | 1,68 | | | 1 | CVE | 1,67 | 0,13 | 25% | 1,25 | 2,09 | 1 | 1 | 100% |
| Other | | | | | 1 | 0 | | | | | | 1 | | |
| 1x 7 | | | | | | | | | | | | | | |
| (343) Cd - urine | [nmol/L] | | | | 2 | | | | | | | 2 | 2 | 100% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A3 | | 46,2 | 0,70 | 1,5 | 2 | CVE | 43,6 | 1,9 | 25% | 32,7 | 54,5 | 2 | 2 | 100% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| 1x 2, 1x 7 | | | | | | | | | | | | | | |
| Sample B3 | | 80,2 | 7,3 | 9,0 | 2 | CVE | 82,9 | 3,6 | 25% | 62,1 | 104 | 2 | 2 | 100% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| 1x 2, 1x 7 | | | | | | | | | | | | | | |
| (347) Cr - urine | [nmol/L] | | | | 2 | | | | | | | 2 | 2 | 100% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A3 | | 102 | 8,7 | 8,5 | 2 | CVE | 104 | 5,8 | 25% | 78 | 130 | 2 | 2 | 100% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| 1x 2, 1x 7 | | | | | | | | | | | | | | |
| Sample B3 | | 706 | 9,5 | 1,3 | 2 | CVE | 696 | 35 | 25% | 522 | 870 | 2 | 2 | 100% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| 1x 2, 1x 7 | | | | | | | | | | | | | | |
| (341) Cu - urine | [µmol/L] | | | | 5 | | | | | | | 5 | 4 | 80% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A3 | | 0,483 | 0,085 | 17 | 5 | CVE | 0,519 | 0,027 | 25% | 0,389 | 0,649 | 5 | 5 | 100% |
| Other | | | | | 5 | 0 | | | | | | 5 | | |
| 2x 1, 1x 2, 1x 5, 1x 7 | | | | | | | | | | | | | | |
| Sample B3 | | 1,34 | 0,16 | 12 | 5 | CVE | 1,44 | 0,061 | 25% | 1,08 | 1,8 | 5 | 4 | 80% |

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| Test | [unit] | | | | | | Comparability | | | | | | | |
|--------------------|----------|-------|-------|--------|------------------|------------------|------------------------|-----------------|------------------|-------|-------|------------------|------------------|------------------|
| | | RoM | SD | CV [%] | N _{tot} | N _{out} | AV | U _{AV} | D _{max} | LL | UL | N _{eva} | N _{suc} | S _{rel} |
| (341) Cu - urine | [µmol/L] | | | | 5 | | | | | | | 5 | 4 | 80% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample B3 | | 1,34 | 0,16 | 12 | 5 | CVE | 1,44 | 0,061 | 25% | 1,08 | 1,8 | 5 | 4 | 80% |
| Other | | | | | 5 | 0 | | | | | | 5 | | |
| | | | | | | | 2x 1, 1x 2, 1x 5, 1x 7 | | | | | | | |
| (346) Hg - urine | [nmol/L] | | | | 2 | | | | | | | 2 | 1 | 50% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A3 | | 17,5 | 2,4 | 14 | 2 | CVE | 19,9 | 2,0 | 25% | 14,9 | 24,9 | 2 | 2 | 100% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| | | | | | | | 1x 2, 1x 99 | | | | | | | |
| Sample B3 | | 54,5 | 4,6 | 8,5 | 2 | CVE | 70,8 | 6,0 | 25% | 53,1 | 88,5 | 2 | 1 | 50% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| | | | | | | | 1x 2, 1x 99 | | | | | | | |
| (362) I - urine | [µmol/L] | | | | 1 | | | | | | | 1 | 1 | 100% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A3 | | 0,418 | | | 1 | CVE | 0,419 | 0,024 | 25% | 0,314 | 0,524 | 1 | 1 | 100% |
| Other | | | | | 1 | 0 | | | | | | 1 | | |
| | | | | | | | 1x 7 | | | | | | | |
| Sample B3 | | 0,879 | | | 1 | CVE | 0,916 | 0,048 | 25% | 0,687 | 1,15 | 1 | 1 | 100% |
| Other | | | | | 1 | 0 | | | | | | 1 | | |
| | | | | | | | 1x 7 | | | | | | | |
| (342) Mn - urine | [nmol/L] | | | | 2 | | | | | | | 2 | 2 | 100% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A3 | | 64,4 | 9,0 | 14 | 2 | CVE | 65,5 | 5,5 | 25% | 49,1 | 81,9 | 2 | 2 | 100% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| | | | | | | | 1x 2, 1x 7 | | | | | | | |
| Sample B3 | | 255 | 8,5 | 3,3 | 2 | CVE | 268 | 15 | 25% | 201 | 335 | 2 | 2 | 100% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| | | | | | | | 1x 2, 1x 7 | | | | | | | |
| (358) Ni - urine | [nmol/L] | | | | 1 | | | | | | | 1 | 0 | 0,00 |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A3 | | 134 | | | 1 | CVE | 86,9 | 6,8 | 25% | 65,1 | 109 | 1 | 0 | 0,00 |
| Other | | | | | 1 | 0 | | | | | | 1 | | |
| | | | | | | | 1x 7 | | | | | | | |
| Sample B3 | | 184 | | | 1 | CVE | 138 | 10 | 25% | 103 | 173 | 1 | 0 | 0,00 |
| Other | | | | | 1 | 0 | | | | | | 1 | | |
| | | | | | | | 1x 7 | | | | | | | |
| (344) Pb - urine | [nmol/L] | | | | 2 | | | | | | | 2 | 2 | 100% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A3 | | 36,1 | 1,8 | 4,9 | 2 | CVE | 34,8 | 2,2 | 25% | 26,1 | 43,5 | 2 | 2 | 100% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| | | | | | | | 1x 2, 1x 7 | | | | | | | |
| Sample B3 | | 134 | 12 | 8,6 | 2 | CVE | 132 | 5,8 | 25% | 99 | 165 | 2 | 2 | 100% |
| Other | | | | | 2 | 0 | | | | | | 2 | | |
| | | | | | | | 1x 2, 1x 7 | | | | | | | |
| (345) Se - urine | [µmol/L] | | | | 1 | | | | | | | 1 | 1 | 100% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A3 | | 0,242 | | | 1 | CVE | 0,27 | 0,019 | 25% | 0,202 | 0,338 | 1 | 1 | 100% |
| Other | | | | | 1 | 0 | | | | | | 1 | | |
| | | | | | | | 1x 7 | | | | | | | |
| Sample B3 | | 2,51 | | | 1 | CVE | 3,09 | 0,16 | 25% | 2,31 | 3,87 | 1 | 1 | 100% |
| Other | | | | | 1 | 0 | | | | | | 1 | | |
| | | | | | | | 1x 7 | | | | | | | |
| (340) Zn - urine | [µmol/L] | | | | 3 | | | | | | | 3 | 2 | 67% |
| Samples and groups | | | | | | | | | | | | | | |
| Sample A3 | | 2,09 | 0,075 | 3,6 | 3 | CVE | 2,03 | 0,11 | 25% | 1,52 | 2,54 | 3 | 2 | 67% |
| Other | | | | | 3 | 1 | | | | | | 3 | | |
| | | | | | | | 2x 1, 1x 7 | | | | | | | |
| Sample B3 | | 3,89 | 0,36 | 9,3 | 3 | CVE | 4,27 | 0,18 | 25% | 3,2 | 5,34 | 3 | 3 | 100% |
| Other | | | | | 3 | 0 | | | | | | 3 | | |
| | | | | | | | 2x 1, 1x 7 | | | | | | | |

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End of report

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