

Supplementary Information for:

**Dried urine spot as a stable, green, and practical microsampling tool in clinical practice for quantification of neopterin and creatinine**

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2 pages, including 1 table

Table S1 Stability data of dried urine spots

| Day | Conc | Storage condition |        |        |                  |        |        |           |        |        |                  |        |        |           |        |        |                  |        |        |                  |        |        |                  |        |        |           |      |      |                  |  |  |
|-----|------|-------------------|--------|--------|------------------|--------|--------|-----------|--------|--------|------------------|--------|--------|-----------|--------|--------|------------------|--------|--------|------------------|--------|--------|------------------|--------|--------|-----------|------|------|------------------|--|--|
|     |      | -80°C             |        |        |                  |        |        | -20°C     |        |        |                  |        |        | 4°C       |        |        |                  |        |        | Room temperature |        |        |                  |        |        | 40°C      |      |      |                  |  |  |
|     |      | Peak area         |        |        | % recovery (n=3) |        |        | Peak area |        |        | % recovery (n=3) |        |        | Peak area |        |        | % recovery (n=3) |        |        | Peak area        |        |        | % recovery (n=3) |        |        | Peak area |      |      | % recovery (n=3) |  |  |
|     |      | Neop              | IS     | Crea   | Neop             | Crea   | Neop   | IS        | Crea   | Neop   | Crea             | Neop   | IS     | Crea      | Neop   | Crea   | Neop             | IS     | Crea   | Neop             | Crea   | Neop   | IS               | Crea   | Neop   | IS        | Crea | Neop | Crea             |  |  |
| 0   | LOW  | 23200             | 255875 | 155999 | 100.00           | 100.00 |        |           |        |        |                  |        |        |           |        |        |                  |        |        |                  |        |        |                  |        |        |           |      |      |                  |  |  |
|     |      | 22851             | 249086 | 156135 |                  |        |        |           |        |        |                  |        |        |           |        |        |                  |        |        |                  |        |        |                  |        |        |           |      |      |                  |  |  |
|     |      | 23583             | 254284 | 154926 |                  |        |        |           |        |        |                  |        |        |           |        |        |                  |        |        |                  |        |        |                  |        |        |           |      |      |                  |  |  |
|     | HIGH | 127844            | 251844 | 643474 | 100.00           | 100.00 |        |           |        |        |                  |        |        |           |        |        |                  |        |        |                  |        |        |                  |        |        |           |      |      |                  |  |  |
|     |      | 128120            | 265273 | 640035 |                  |        |        |           |        |        |                  |        |        |           |        |        |                  |        |        |                  |        |        |                  |        |        |           |      |      |                  |  |  |
|     |      | 126830            | 250761 | 641335 |                  |        |        |           |        |        |                  |        |        |           |        |        |                  |        |        |                  |        |        |                  |        |        |           |      |      |                  |  |  |
| 1   | LOW  | 23687             | 248652 | 153081 | 101.47           | 98.46  | 23748  | 252370    | 154322 | 100.06 | 98.13            | 24575  | 255988 | 163260    | 100.25 | 101.35 | 22758            | 254405 | 153382 | 99.09            | 98.59  | 23925  | 255716           | 151169 | 101.94 | 99.52     |      |      |                  |  |  |
|     |      | 23079             | 251270 | 153939 |                  |        | 22994  | 253225    | 152629 |        |                  | 23247  | 255610 | 157728    |        |        | 23458            | 259975 | 152873 |                  |        | 23200  | 256769           | 156497 |        |           |      |      |                  |  |  |
|     |      | 23281             | 252786 | 152837 |                  |        | 23217  | 256742    | 151369 |        |                  | 22392  | 252065 | 152374    |        |        | 23492            | 252675 | 154240 |                  |        | 24431  | 252904           | 157161 |        |           |      |      |                  |  |  |
|     | HIGH | 122989            | 243379 | 644030 | 97.86            | 99.88  | 120823 | 248355    | 641062 | 95.82  | 100.39           | 120926 | 253350 | 639822    | 95.51  | 99.57  | 121742           | 256990 | 645472 | 95.20            | 100.82 | 121077 | 254216           | 640941 | 95.15  | 100.08    |      |      |                  |  |  |
|     |      | 118098            | 252659 | 636554 |                  |        | 122399 | 256100    | 646721 |        |                  | 118901 | 251909 | 640720    |        |        | 123674           | 259547 | 651417 |                  |        | 121311 | 254745           | 636168 |        |           |      |      |                  |  |  |
|     |      | 124533            | 253399 | 641957 |                  |        | 120285 | 256546    | 644520 |        |                  | 120122 | 250740 | 636051    |        |        | 121866           | 257405 | 643818 |                  |        | 120938 | 256999           | 649244 |        |           |      |      |                  |  |  |
| 2   | LOW  | 22517             | 245574 | 153431 | 100.49           | 98.77  | 23330  | 248986    | 156249 | 99.01  | 100.77           | 23277  | 253129 | 156140    | 98.52  | 99.78  | 23466            | 245343 | 154404 | 102.66           | 99.31  | 22817  | 254213           | 155228 | 100.33 | 100.30    |      |      |                  |  |  |
|     |      | 23440             | 250442 | 154126 |                  |        | 22136  | 252857    | 156894 |        |                  | 22426  | 254812 | 154280    |        |        | 23599            | 243059 | 155351 |                  |        | 24950  | 256900           | 155961 |        |           |      |      |                  |  |  |
|     |      | 22596             | 247829 | 153771 |                  |        | 22806  | 250027    | 157534 |        |                  | 22836  | 250565 | 155628    |        |        | 22624            | 251786 | 154089 |                  |        | 22596  | 253536           | 157272 |        |           |      |      |                  |  |  |
|     | HIGH | 124720            | 247509 | 648893 | 99.75            | 100.42 | 120566 | 251694    | 642747 | 97.80  | 100.46           | 123483 | 259175 | 641129    | 96.96  | 99.93  | 123159           | 250072 | 643663 | 94.51            | 100.61 | 117509 | 257993           | 640907 | 91.96  | 100.20    |      |      |                  |  |  |
|     |      | 123119            | 253009 | 641120 |                  |        | 126106 | 254147    | 647338 |        |                  | 121420 | 252372 | 640610    |        |        | 115878           | 252630 | 644733 |                  |        | 117507 | 251940           | 641750 |        |           |      |      |                  |  |  |
|     |      | 124167            | 247583 | 642866 |                  |        | 122987 | 252404    | 643619 |        |                  | 123781 | 251205 | 641683    |        |        | 116230           | 251352 | 648157 |                  |        | 117405 | 258830           | 645974 |        |           |      |      |                  |  |  |
| 3   | LOW  | 22134             | 248878 | 154444 | 100.90           | 101.44 | 22463  | 244785    | 150640 | 99.29  | 98.97            | 22039  | 245253 | 155729    | 98.61  | 100.03 | 21852            | 251110 | 154444 | 95.95            | 98.70  | 23426  | 249056           | 152154 | 99.42  | 99.94     |      |      |                  |  |  |
|     |      | 23476             | 247293 | 164221 |                  |        | 22494  | 250106    | 155014 |        |                  | 22230  | 245030 | 155726    |        |        | 22194            | 252109 | 154377 |                  |        | 22624  | 249517           | 155781 |        |           |      |      |                  |  |  |
|     |      | 23025             | 245503 | 155122 |                  |        | 22982  | 251179    | 156600 |        |                  | 22230  | 245030 | 155726    |        |        | 22104            | 248519 | 152153 |                  |        | 22484  | 253028           | 158855 |        |           |      |      |                  |  |  |
|     | HIGH | 116753            | 251905 | 640491 | 93.03            | 99.98  | 122558 | 253697    | 644404 | 93.57  | 100.46           | 113744 | 251283 | 646142    | 91.62  | 100.45 | 109435           | 245708 | 648633 | 89.67            | 100.78 | 119274 | 254168           | 642248 | 93.67  | 100.30    |      |      |                  |  |  |
|     |      | 117030            | 256365 | 645640 |                  |        | 117614 | 256211    | 646339 |        |                  | 112272 | 247527 | 641958    |        |        | 116770           | 254696 | 648588 |                  |        | 121272 | 255184           | 642574 |        |           |      |      |                  |  |  |
|     |      | 119025            | 252444 | 638364 |                  |        | 115896 | 253460    | 643000 |        |                  | 116720 | 251572 | 645465    |        |        | 113251           | 258943 | 642641 |                  |        | 114825 | 251730           | 645855 |        |           |      |      |                  |  |  |
| 4   | LOW  | 21597             | 247303 | 149211 | 98.21            | 96.60  | 22690  | 245003    | 153894 | 99.74  | 98.43            | 22173  | 253324 | 154926    | 97.15  | 98.83  | 22003            | 253447 | 150297 | 97.46            | 97.79  | 23853  | 249584           | 154145 | 101.74 | 99.82     |      |      |                  |  |  |
|     |      | 22148             | 257855 | 151205 |                  |        | 22587  | 251958    | 153077 |        |                  | 22515  | 252509 | 154345    |        |        | 22653            | 252763 | 151259 |                  |        | 23265  | 256903           | 156871 |        |           |      |      |                  |  |  |
|     |      | 23521             | 241671 | 150753 |                  |        | 22594  | 244961    | 152746 |        |                  | 22913  | 252907 | 152333    |        |        | 22959            | 250233 | 155186 |                  |        | 24241  | 258227           | 155221 |        |           |      |      |                  |  |  |
|     | HIGH | 118574            | 252100 | 643980 | 94.19            | 100.29 | 117369 | 252258    | 649006 | 93.51  | 100.89           | 120027 | 250256 | 646225    | 94.98  | 100.71 | 120059           | 254688 | 644902 | 95.08            | 100.88 | 116976 | 254792           | 643526 | 92.44  | 100.12    |      |      |                  |  |  |
|     |      | 120137            | 250032 | 646386 |                  |        | 116848 | 250178    | 647720 |        |                  | 120108 | 255995 | 646061    |        |        | 119651           | 253920 | 649306 |                  |        | 119889 | 256129           | 641157 |        |           |      |      |                  |  |  |
|     |      | 117826            | 257201 | 640021 |                  |        | 118229 | 253603    | 645263 |        |                  | 119327 | 252912 | 646262    |        |        | 120291           | 250943 | 647531 |                  |        | 116651 | 256261           | 642464 |        |           |      |      |                  |  |  |
| 5   | LOW  | 22468             | 251981 | 153729 | 97.93            | 100.02 | 22731  | 255488    | 153823 | 96.15  | 98.08            | 22231  | 255934 | 160206    | 96.58  | 98.08  | 22556            | 253164 | 150553 | 96.85            | 97.00  | 23398  | 256352           | 152468 | 101.20 | 97.93     |      |      |                  |  |  |
|     |      | 23999             | 251756 | 157933 |                  |        | 22366  | 254790    | 151736 |        |                  | 22929  | 251456 | 150384    |        |        | 22184            | 250530 | 150426 |                  |        | 24670  | 257247           | 153482 |        |           |      |      |                  |  |  |
|     |      | 22088             | 259554 | 155514 |                  |        | 22617  | 257572    | 152548 |        |                  | 22303  | 254214 | 147499    |        |        | 22102            | 248847 | 152078 |                  |        | 23306  | 255423           | 151442 |        |           |      |      |                  |  |  |
|     | HIGH | 117502            | 255996 | 646276 | 93.49            | 100.55 | 119400 | 258165    | 642775 | 91.69  | 100.05           | 118864 | 245862 | 639546    | 97.23  | 99.61  | 117683           | 249888 | 642586 | 94.48            | 100.15 | 118719 | 242434           | 636178 | 95.52  | 99.87     |      |      |                  |  |  |
|     |      | 119603            | 254590 | 642677 |                  |        | 116787 | 256703    | 641476 |        |                  | 119797 | 241218 | 638554    |        |        | 113743           | 243547 | 644621 |                  |        | 117649 | 247338           | 642236 |        |           |      |      |                  |  |  |
|     |      | 119786            | 255177 | 646511 |                  |        | 116897 | 257628    | 641579 |        |                  | 115516 | 243646 | 639294    |        |        | 115328           | 242798 | 640541 |                  |        | 113610 | 245222           | 643912 |        |           |      |      |                  |  |  |
| 7   | LOW  | 22575             | 246726 | 154129 | 99.64            | 97.78  | 21933  | 245536    | 150831 | 98.84  | 97.18            | 22539  | 244179 | 159839    | 98.04  | 99.37  | 22823            | 248254 | 150283 | 99.28            | 98.36  |        |                  |        |        |           |      |      |                  |  |  |
|     |      | 22817             | 249802 | 151028 |                  |        | 22578  | 244819    | 152426 |        |                  | 21321  | 246364 | 151228    |        |        | 22225            | 247387 | 153794 |                  |        |        |                  |        |        |           |      |      |                  |  |  |
|     |      | 22382             | 245099 | 151537 |                  |        | 22245  | 246041    | 150649 |        |                  | 22589  | 248442 | 153071    |        |        | 22428            | 245385 | 155345 |                  |        |        |                  |        |        |           |      |      |                  |  |  |
|     | HIGH | 118215            | 243148 | 641934 | 95.81            | 100.44 | 119242 | 240669    | 644589 | 97.18  | 100.63           | 117647 | 245613 | 644696    | 96.12  | 100.06 | 120017           | 247442 | 642782 | 95.70            | 100.09 |        |                  |        |        |           |      |      |                  |  |  |
|     |      | 115858            | 244660 | 646806 |                  |        | 119252 | 247670    | 645857 |        |                  | 119399 | 243890 | 643964    |        |        | 117781           | 246167 | 643013 |                  |        |        |                  |        |        |           |      |      |                  |  |  |
|     |      | 116989            | 247213 | 644651 |                  |        | 118025 | 247608    | 646451 |        |                  | 116991 | 249366 | 637266    |        |        | 116435           | 248891 | 640846 |                  |        |        |                  |        |        |           |      |      |                  |  |  |
| 15  | LOW  | 22887             | 252763 | 151574 | 98.34            | 97.20  | 22527  | 258950    | 150955 | 95.33  | 97.62            | 22668  | 252088 | 150331    | 97.81  | 96.53  | 22612            | 251946 | 152617 | 96.92            | 97.44  |        |                  |        |        |           |      |      |                  |  |  |
|     |      | 22681             | 256922 | 150804 |                  |        | 22028  | 254921    | 153711 |        |                  | 22863  | 254484 | 150516    |        |        | 22529            | 255025 | 151262 |                  |        |        |                  |        |        |           |      |      |                  |  |  |
|     |      | 22874             | 249167 | 151586 |                  |        | 22431  | 252276    | 151280 |        |                  | 22836  | 255579 | 150023    |        |        | 22722            | 256468 | 151215 |                  |        |        |                  |        |        |           |      |      |                  |  |  |
|     | HIGH | 118097            | 249479 | 643375 | 93.83            | 100.11 | 118207 | 256128    | 643435 | 92.73  | 100.20           | 119045 | 252474 | 644058    | 92.56  | 100.37 | 119556           | 257129 | 642216 | 92.99            | 100.16 |        |                  |        |        |           |      |      |                  |  |  |
|     |      | 118775            | 252315 | 641596 |                  |        | 119807 | 256059    | 641487 |        |                  | 116362 | 256977 | 643665    |        |        | 117444           | 254080 | 641834 |                  |        |        |                  |        |        |           |      |      |                  |  |  |
|     |      | 118588            | 258145 | 641917 |                  |        | 118900 | 259914    | 643686 |        |                  | 117214 | 254735 | 644179    |        |        | 118042           | 254675 | 643897 |                  |        |        |                  |        |        |           |      |      |                  |  |  |

| Day | Conc | Storage condition |        |        |                  |        |           |        |        |                  |        |           |        |        |                  |        |                  |        |        |                  |        |           |    |      |                  |      |
|-----|------|-------------------|--------|--------|------------------|--------|-----------|--------|--------|------------------|--------|-----------|--------|--------|------------------|--------|------------------|--------|--------|------------------|--------|-----------|----|------|------------------|------|
|     |      | -80°C             |        |        |                  |        | -20°C     |        |        |                  |        | 4°C       |        |        |                  |        | Room temperature |        |        |                  |        | 40°C      |    |      |                  |      |
|     |      | Peak area         |        |        | % recovery (n=3) |        | Peak area |        |        | % recovery (n=3) |        | Peak area |        |        | % recovery (n=3) |        | Peak area        |        |        | % recovery (n=3) |        | Peak area |    |      | % recovery (n=3) |      |
|     |      | Neop              | IS     | Crea   | Neop             | Crea   | Neop      | IS     | Crea   | Neop             | Crea   | Neop      | IS     | Crea   | Neop             | Crea   | Neop             | IS     | Crea   | Neop             | Crea   | Neop      | IS | Crea | Neop             | Crea |
| 30  | LOW  | 22582             | 257058 | 152804 | 96.37            | 97.32  | 22254     | 249932 | 152522 | 95.90            | 97.90  | 23812     | 255640 | 150394 | 100.81           | 97.09  | 23836            | 254766 | 152101 | 100.33           | 97.45  |           |    |      |                  |      |
|     |      | 22819             | 250943 | 150516 |                  |        | 22416     | 259323 | 152695 |                  |        | 23706     | 255249 | 151990 |                  |        | 23940            | 253894 | 151849 |                  |        |           |    |      |                  |      |
|     |      | 22316             | 258166 | 151212 |                  |        | 22825     | 258099 | 152057 |                  |        | 23553     | 257812 | 151093 |                  |        | 22769            | 258017 | 151204 |                  |        |           |    |      |                  |      |
|     | HIGH | 118134            | 256958 | 645645 | 90.53            | 100.32 | 113085    | 259110 | 644765 | 89.01            | 100.47 | 111829    | 256547 | 642662 | 86.18            | 100.63 | 110894           | 246427 | 635796 | 86.72            | 99.21  |           |    |      |                  |      |
|     |      | 115391            | 256800 | 642394 |                  |        | 113119    | 254966 | 644462 |                  |        | 109066    | 261486 | 647910 |                  |        | 108664           | 253398 | 636067 |                  |        |           |    |      |                  |      |
|     |      | 114385            | 257116 | 642915 |                  |        | 114956    | 254797 | 644586 |                  |        | 111773    | 256314 | 646313 |                  |        | 107375           | 256449 | 637799 |                  |        |           |    |      |                  |      |
| 90  | LOW  | 22169             | 262124 | 165043 | 91.44            | 103.79 | 21343     | 267399 | 154298 | 88.38            | 98.86  | 21754     | 259267 | 153738 | 89.50            | 99.03  | 21170            | 260172 | 149431 | 88.32            | 93.86  |           |    |      |                  |      |
|     |      | 21164             | 266030 | 159757 |                  |        | 21774     | 268405 | 154034 |                  |        | 21346     | 266440 | 153424 |                  |        | 20543            | 257466 | 146710 |                  |        |           |    |      |                  |      |
|     |      | 21905             | 249768 | 159939 |                  |        | 21941     | 266833 | 153390 |                  |        | 21386     | 259858 | 155367 |                  |        | 21288            | 260150 | 142232 |                  |        |           |    |      |                  |      |
|     | HIGH | 112814            | 255475 | 649909 | 88.12            | 100.80 | 114061    | 254033 | 668392 | 89.72            | 103.42 | 116356    | 255502 | 646433 | 89.27            | 100.83 | 112193           | 246541 | 634594 | 88.68            | 98.45  |           |    |      |                  |      |
|     |      | 113191            | 258988 | 645937 |                  |        | 112126    | 255814 | 662630 |                  |        | 112431    | 256930 | 647188 |                  |        | 110118           | 258667 | 629882 |                  |        |           |    |      |                  |      |
|     |      | 112286            | 255647 | 644402 |                  |        | 115537    | 254208 | 659616 |                  |        | 114691    | 259436 | 647238 |                  |        | 111923           | 250819 | 630581 |                  |        |           |    |      |                  |      |
| 120 | LOW  | 21385             | 249434 | 163768 | 94.98            | 103.75 | 22027     | 253299 | 162521 | 91.90            | 102.77 | 22076     | 253882 | 158621 | 96.86            | 99.92  | 20782            | 249901 | 158623 | 91.86            | 102.03 |           |    |      |                  |      |
|     |      | 21449             | 242304 | 159275 |                  |        | 21051     | 257814 | 157486 |                  |        | 22683     | 249952 | 152507 |                  |        | 21325            | 249901 | 159085 |                  |        |           |    |      |                  |      |
|     |      | 21417             | 245869 | 161522 |                  |        | 21539     | 255557 | 160004 |                  |        | 22380     | 251917 | 155564 |                  |        | 21054            | 249901 | 158854 |                  |        |           |    |      |                  |      |
|     | HIGH | 117929            | 255981 | 645599 | 91.66            | 101.11 | 115775    | 256236 | 647854 | 91.45            | 101.01 | 115374    | 249851 | 645872 | 93.01            | 100.68 | 116223           | 250113 | 646234 | 93.01            | 100.68 |           |    |      |                  |      |
|     |      | 115937            | 255854 | 651897 |                  |        | 117031    | 254419 | 648273 |                  |        | 116897    | 251085 | 646145 |                  |        | 115923           | 250831 | 646001 |                  |        |           |    |      |                  |      |
|     |      | 116933            | 255918 | 648748 |                  |        | 116403    | 255328 | 648064 |                  |        | 116136    | 250468 | 646009 |                  |        | 116261           | 250461 | 645788 |                  |        |           |    |      |                  |      |
| 180 | LOW  | 21277             | 254383 | 155282 | 91.21            | 99.43  | 22117     | 255580 | 157188 | 96.82            | 99.17  | 29885     | 246317 | 151183 | 127.49           | 95.54  | 28904            | 243874 | 155288 | 128.31           | 97.05  |           |    |      |                  |      |
|     |      | 20987             | 255717 | 155547 |                  |        | 23328     | 253009 | 150310 |                  |        | 29439     | 251619 | 149099 |                  |        | 29864            | 247013 | 145569 |                  |        |           |    |      |                  |      |
|     |      | 21757             | 255208 | 153577 |                  |        | 21988     | 250839 | 155694 |                  |        | 27555     | 245093 | 145958 |                  |        | 28112            | 247384 | 152410 |                  |        |           |    |      |                  |      |
|     | HIGH | 75454             | 246734 | 624335 | 63.59            | 98.58  | 83177     | 255812 | 647559 | 65.69            | 102.31 | 99090     | 246181 | 633209 | 78.06            | 99.66  | 100736           | 252204 | 611091 | 81.94            | 95.47  |           |    |      |                  |      |
|     |      | 82703             | 249293 | 624335 |                  |        | 80112     | 245322 | 647644 |                  |        | 95101     | 244844 | 640035 |                  |        | 101218           | 248424 | 620484 |                  |        |           |    |      |                  |      |
|     |      | 80177             | 255794 | 648827 |                  |        | 84196     | 254569 | 674045 |                  |        | 95436     | 253233 | 645043 |                  |        | 100925           | 240851 | 606127 |                  |        |           |    |      |                  |      |

Conc = concentration

LOW = neopterin 750 nmol/L and creatinine 4 mmol/L

HIGH = neopterin 5000 nmol/L and creatinine 18 mmol/L

Neop = neopterin

IS = internal standard

Crea = creatinine