

Supplementary File

Table S1. Red blood cell guanine nucleotides (GTP, GDP, GMP) concentration, total guanine nucleotide (TGN), guanylate energy charge (GEC), at rest, post-exercise and after 30 minutes of recovery in consecutive training phases (transition, general, specific, competition) in endurance athletes ($n = 11$), sprinters ($n = 11$), and recreational runners ($n = 11$).

| training phases | ENDURANCE | | | SPRINT | | | RECREATION | | |
|-----------------|---------------|---------------|---------------|----------------------------|----------------------------|---------------|---------------|---------------|---------------|
| | Rest | Post-exercise | 30' recovery | Rest | Post-exercise | 30' recovery | Rest | Post-exercise | 30' recovery |
| GTP, mmol/L RBC | | | | | | | | | |
| Transition | 80.9 ± 5.23 | 80.7 ± 5.09 | 80.4 ± 4.73 | 85.7 ± 5.94 | 85.5 ± 5.65 | 85.1 ± 5.87 | 78.3 ± 5.99 | 77.9 ± 6.09 | 77.6 ± 6.58 |
| General | 81.3 ± 4.75 | 80.4 ± 5.12 | 80.3 ± 4.90 | 85.0 ± 6.2 | 84.6 ± 5.91 | 84.4 ± 6.14 | 78.4 ± 5.48 | 78.1 ± 5.35 | 78.0 ± 5.40 |
| Specific | 81.1 ± 4.16 | 80.9 ± 4.8 | 80.5 ± 4.1 | 85.6 ± 6.41 | 85.6 ± 6.13 | 85.0 ± 6.52 | 78.1 ± 5.99 | 77.6 ± 6.09 | 77.4 ± 6.58 |
| Competition | 81.2 ± 4.35 | 80.6 ± 4.37 | 80.3 ± 4.43 | 85.5 ± 6.29 | 85.2 ± 5.64 | 84.9 ± 5.95 | 78.214 ± 5.56 | 77.8 ± 5.86 | 77.7 ± 6.33 |
| GDP, mmol/L RBC | | | | | | | | | |
| Transition | 22.9 ± 3.49 | 23.2 ± 3.42 | 23.1 ± 3.60 | 25.2 ± 4.25 [†] | 25.5 ± 4.55 | 25.4 ± 4.3 | 19.4 ± 4.63 | 19.7 ± 4.76 | 19.5 ± 4.75 |
| General | 22.7 ± 3.42 | 22.9 ± 3.63 | 22.9 ± 3.57 | 25.9 ± 4.6 | 26.0 ± 4.57 | 25.9 ± 4.54 | 19.7 ± 4.77 | 20.0 ± 4.82 | 19.8 ± 4.80 |
| Specific | 23.0 ± 3.55 | 23.2 ± 3.43 | 23.1 ± 3.53 | 25.7 ± 4.84 | 25.8 ± 4.76 | 25.6 ± 4.79 | 19.7 ± 4.77 | 20.0 ± 4.82 | 19.8 ± 4.8 |
| Competition | 23.3 ± 3.44 | 23.4 ± 3.33 | 23.4 ± 3.46 | 25.9 ± 4.53 | 26.0 ± 4.48 | 25.9 ± 4.5 | 19.5 ± 5.1 | 19.7 ± 5.38 | 19.6 ± 5.27 |
| GMP, mmol/L RBC | | | | | | | | | |
| Transition | 20.7 ± 3.75 | 20.5 ± 3.92 | 20.6 ± 3.77 | 22.8 ± 3.57 [†] | 22.5 ± 3.59 | 22.5 ± 3.46 | 17.1 ± 4.49 | 16.8 ± 4.45 | 17.0 ± 4.66 |
| General | 20.4 ± 3.34 | 20.0 ± 3.11 | 20.5 ± 3.14 | 22.6 ± 3.58 | 22.2 ± 3.82 | 22.4 ± 3.43 | 16.9 ± 4.41 | 16.5 ± 4.58 | 16.8 ± 4.63 |
| Specific | 20.6 ± 3.02 | 20.2 ± 2.91 | 20.6 ± 2.91 | 23.0 ± 3.08 | 22.6 ± 3.08 | 22.7 ± 2.98 | 16.6 ± 5.15 | 16.3 ± 5.1 | 16.5 ± 5.35 |
| Competition | 20.8 ± 2.88 | 20.5 ± 2.72 | 20.7 ± 2.88 | 22.7 ± 3.16 | 22.5 ± 3.17 | 22.6 ± 3.21 | 16.9 ± 5.03 | 16.5 ± 4.74 | 16.6 ± 5.13 |
| TGN, mmol/L RBC | | | | | | | | | |
| Transition | 124.5 ± 11.51 | 124.3 ± 11.27 | 124.1 ± 10.70 | 133.6 ± 13.01 [‡] | 133.6 ± 12.98 [‡] | 133.0 ± 12.92 | 114.7 ± 14.82 | 114.3 ± 15.01 | 114.1 ± 15.61 |
| General | 124.4 ± 10.43 | 123.3 ± 10.61 | 123.6 ± 10.25 | 133.4 ± 13.53 | 132.8 ± 13.47 | 132.6 ± 13.22 | 114.9 ± 14.15 | 114.6 ± 14.24 | 114.5 ± 14.32 |
| Specific | 124.7 ± 9.26 | 124.3 ± 9.9 | 124.2 ± 9.29 | 134.4 ± 13.55 [‡] | 133.9 ± 13.29 | 133.4 ± 13.32 | 114.0 ± 15.24 | 114.1 ± 15.48 | 113.8 ± 16.09 |
| Competition | 125.3 ± 9.87 | 124.4 ± 9.56 | 124.4 ± 10.14 | 134.0 ± 13.35 | 133.7 ± 12.65 | 133.3 ± 13.02 | 114.3 ± 15.0 | 114.3 ± 15.87 | 113.9 ± 16.33 |
| GEC | | | | | | | | | |
| Transition | 0.74 ± 0.023 | 0.74 ± 0.025 | 0.74 ± 0.025 | 0.74 ± 0.018 | 0.74 ± 0.019 | 0.74 ± 0.018 | 0.77 ± 0.03 | 0.77 ± 0.03 | 0.77 ± 0.03 |

| | | | | | | | | | |
|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| General | 0.75 ± 0.021 | 0.75 ± 0.019 | 0.74 ± 0.020 | 0.74 ± 0.018 | 0.74 ± 0.02 | 0.74 ± 0.018 | 0.77 ± 0.032 | 0.77 ± 0.034 | 0.77 ± 0.034 |
| Specific | 0.74 ± 0.022 | 0.75 ± 0.02 | 0.74 ± 0.021 | 0.73 ± 0.014 | 0.74 ± 0.014 | 0.73 ± 0.014 | 0.77 ± 0.036 | 0.77 ± 0.036 | 0.77 ± 0.037 |
| Competition | 0.74 ± 0.018 | 0.74 ± 0.017 | 0.74 ± 0.017 | 0.74 ± 0.015 | 0.74 ± 0.015 | 0.74 ± 0.01 | 0.77 ± 0.036 | 0.77 ± 0.035 | 0.77 ± 0.036 |

Values are given as means ± SD. † significantly different from Post-exercise ($p \leq 0.05$); ‡ significantly different from 30'recovery ($p \leq 0.05$). GDP - guanosine-5'- diphosphate. GEC - guanylate energy charge; was evaluated according to the formula by Atkinson $GEC = ([GTP] + 0.5[GDP]) / ([GTP] + [GDP] + [GMP])$. GMP - guanosine-5'- monophosphate. GTP - guanosine-5'- triphosphate. TGN - total guanine nucleotides = $[GTP] + [GDP] + [GMP]$.

