**Supplemental Table 1. Spearman rank order correlations between individual analysis methods. Significant (p<0.05) coefficients (rs) are indicated in bold.**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (a1) | (b1) | (c1) | (d1) | (a2) | (b2) | (c2) | (d2) |
| (a1) our method | 1.000 | **0.769** | **0.628** | **0.759** | **0.977** | **0.589** | -0.362 | **0.711** |
| (b1) Jenkins et al., 2017 | **0.769** | 1.000 | **0.732** | **0.882** | **0.810** | **0.911** | **-0.604** | **0.829** |
| (c1) Mender & Shay, 2015 | **0.628** | **0.732** | 1.000 | **0.802** | **0.593** | **0.676** | -0.294 | **0.849** |
| (d1) Kimura et al., 2010 | **0.759** | **0.882** | **0.802** | 1.000 | **0.769** | **0.684** | **-0.575** | **0.903** |
| (a2) our method | **0.977** | **0.810** | **0.593** | **0.769** | 1.000 | **0.635** | -0.404 | **0.740** |
| (b2) Jenkins et al., 2017 | **0.589** | **0.911** | **0.676** | **0.684** | **0.635** | 1.000 | -0.428 | **0.695** |
| (c2) Mender & Shay, 2015 | -0.362 | **-0.604** | -0.294 | **-0.575** | -0.404 | -0.428 | 1.000 | **-0.556** |
| (d2) Kimura et al., 2010 | **0.711** | **0.829** | **0.849** | **0.903** | **0.740** | **0.695** | **-0.556** | 1.000 |

(a1) to (d1)= MTL1, (a2 ) to (d2)=MTL2, MTL=mean telomere length

**Supplemental Table 2. Impact of amount of starting DNA on telomere lengths (n=3) calculated using 4 different analysis methods and applying 2 different equations.**

|  |  |  |
| --- | --- | --- |
|  | MTL1 (bp)=ΣNIi/Σ(NIi/MWi) | MTL2 (bp)=Σ(NIixMWi)/ΣNIi |
|  |  |  |
| 1. Our method
 |  |  |
| 1.0 ug | 4419 ± 516 | 6369 ± 1257 |
| 1.5 ug | 4452 ± 573 | 6349 ± 1373 |
| 2.0 ug | 4435 ± 531 | 6330 ± 1144 |
| 2.5 ug | 4563 ± 645 | 6236 ± 1271 |
| %CV | 1.46% | 0.93% |
| 1. Jenkins et al,2017
 |  |  |
| 1.0 ug | 4995 ± 1027 | 6298 ± 1593 |
| 1.5 ug | 5006 ± 1033 | 6396 ± 1651 |
| 2.0 ug | 4984 ± 1013 | 6357 ± 1605 |
| 2.5 ug | 4970 ± 1033 | 6319 ± 1596 |
| %CV | 0.31% | 0.68% |
| 1. Mender & Shay, 2015
 |  |  |
| 1.0 ug | 3966 ± 541 | 9960 ± 2456 |
| 1.5 ug | 4060 ± 568 | 9939 ± 3467 |
| 2.0 ug | 3952 ± 712 | 10653 ± 3037 |
| 2.5 ug | 4049 ± 631 | 10249 ± 2109 |
| %CV | 1.39% | 3.30% |
| 1. Kimura et al 2010
 |  |  |
| 1.0 ug | 3640 ± 614 | 5606 ± 1125 |
| 1.5 ug | 3666 ± 589 | 5758 ± 1111 |
| 2.0 ug | 3612 ± 559 | 5749 ± 978 |
| 2.5 ug | 3627 ± 581 | 5719 ± 947 |
| %CV | 0.63% | 1.22% |

MTL=mean telomere length, bp=base pairs, NI=net intensity, MW=molecular weight, CV=coefficient of variance.