

Additional file 2: R pipeline and TPM file

R pipeline for FPKM calculation:

```
count <- read.csv("count_with_length.csv")
```

```
count <- count[,-1]
```

```
kb <- count$Length/1000
```

```
countdata <- count[,2 : 4]
```

```
rpkm <- countdata/kb
```

```
tpm <- t(t(rpkm)/colSums(rpkm) * 1000000)
```

```
write.csv(tpm,file="tpm_genesandORFs.csv")
```

count_with_length.csv (Mapped read counts) and tpm_genesandORFs.csv (TPM value) are showed on the next page.

count_with_length.csv: the file from featureCounts results

| | gene | S1 | S2 | S3 | Length |
|----|--------|--------|--------|--------|--------|
| 1 | Cox1 | 86763 | 157084 | 128635 | 1584 |
| 2 | Cox2 | 149761 | 181509 | 133546 | 720 |
| 3 | Cox3 | 105054 | 136760 | 90154 | 759 |
| 4 | Nad3 | 70740 | 92613 | 80090 | 408 |
| 5 | Nad4L | 42299 | 40874 | 39562 | 276 |
| 6 | Nad5 | 197872 | 345288 | 260600 | 1707 |
| 7 | Nad6 | 115585 | 202194 | 158946 | 468 |
| 8 | Atp6 | 38551 | 66625 | 28215 | 675 |
| 9 | Cob | 53102 | 105341 | 68664 | 1278 |
| 10 | Nad1 | 39127 | 55001 | 34846 | 975 |
| 11 | Nad2 | 27339 | 72259 | 23435 | 1059 |
| 12 | Nad4 | 26957 | 38519 | 27971 | 1296 |
| 13 | ORF87 | 4265 | 8519 | 6538 | 1983 |
| 14 | ORF40 | 6937 | 11861 | 7145 | 819 |
| 15 | ORF104 | 495 | 437 | 255 | 513 |
| 16 | ORF8 | 12648 | 18169 | 4873 | 609 |
| 17 | ORF11 | 7374 | 6036 | 6839 | 603 |
| 18 | ORF10 | 2894 | 2486 | 1827 | 585 |
| 19 | ORF127 | 1912 | 1624 | 1472 | 1809 |
| 20 | ORF5 | 5270 | 10275 | 8399 | 762 |
| 21 | ORF86 | 6014 | 3166 | 3494 | 582 |
| 22 | ORF21 | 3493 | 1437 | 3223 | 239 |
| 23 | ORF103 | 489 | 355 | 239 | 246 |

tpm_genesandORFs.csv: the TPM file from R pipeline result

| | S1 | S2 | S3 |
|--------|-------------|-------------|-------------|
| Cox1 | 40218.96116 | 50376.80365 | 55576.6823 |
| Cox2 | 152727.661 | 128061.7705 | 126936.6498 |
| Cox3 | 101630.0836 | 91531.62031 | 81289.0164 |
| Nad3 | 127308.1943 | 115309.6419 | 134340.4425 |
| Nad4L | 112531.0792 | 75230.14393 | 98097.4686 |
| Nad5 | 85114.25226 | 102754.7243 | 104479.1268 |
| Nad6 | 181345.6281 | 219470.5465 | 232430.1133 |
| Atp6 | 41935.64633 | 50140.34102 | 28606.51321 |
| Cob | 30509.2471 | 41871.68298 | 36769.42934 |
| Nad1 | 29466.15035 | 28656.27948 | 24458.90221 |
| Nad2 | 18955.62597 | 34661.69697 | 15144.59423 |
| Nad4 | 15272.77743 | 15098.1535 | 14770.37888 |
| ORF87 | 1579.238733 | 2182.32656 | 2256.37275 |
| ORF40 | 6219.267811 | 7356.83877 | 5970.448759 |
| ORF104 | 708.4990947 | 432.7308981 | 340.1821012 |
| ORF8 | 15249.51495 | 15155.40569 | 5476.054513 |
| ORF11 | 8979.192597 | 5084.939067 | 7761.826587 |
| ORF10 | 3632.403843 | 2158.733805 | 2137.328738 |
| ORF127 | 776.0698059 | 456.0382729 | 556.8752126 |
| ORF5 | 5078.168529 | 6849.844197 | 7543.297809 |
| ORF86 | 7587.381214 | 2763.387317 | 4108.549843 |
| ORF21 | 10731.29542 | 3054.307097 | 9228.923554 |
| ORF103 | 1459.570973 | 733.0727568 | 664.8925057 |