## Supplemental Data

## Divergence between Human Populations

## Estimated from Linkage Disequilibrium

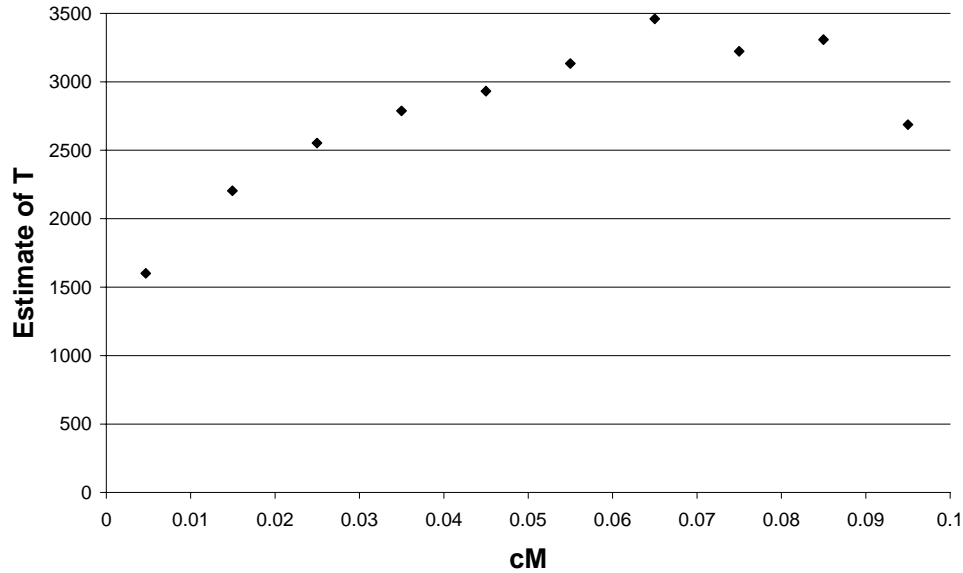John A. Sved, Allan F. McRae, and Peter M. Visscher



**Figure S1.**    Estimate of divergence time when the two populations split 3500 generations ago (*n* = 240, *MAF* > 0.10). The ms command line to generate the data was:

```
ms 240 1000 -t 400 -r 400 1000000 -I 2 120 120 -ej 0.0875 1 2
```
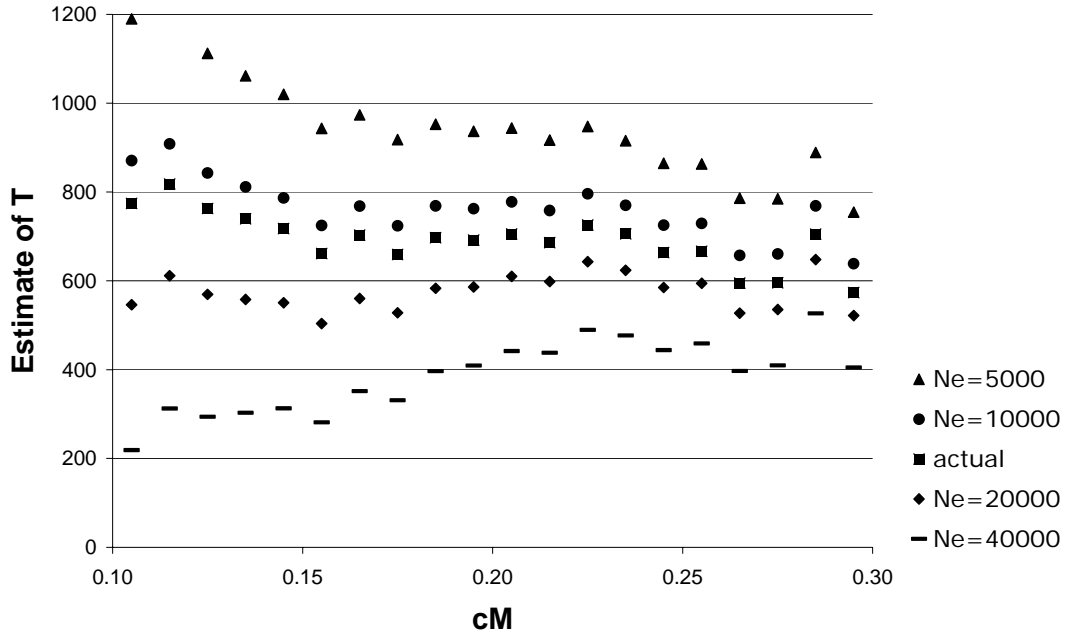
**Figure S2.** Sensitivity of the estimate of *T* as a function of the estimate of $r^2[0]$. Shown are the actual estimates of *T* for the YRI-CEU comparison when using the observed $r^2$ values in the YRI sample as $r^2[0]$ and the estimate of T when using $r^2[0]$ from the relationship between $r^2$ and effective population size, $E(r^2) = 1/(1 + 4N_e c)^1$, for $N_e = 5000$, 10000, 20000 and 40000.
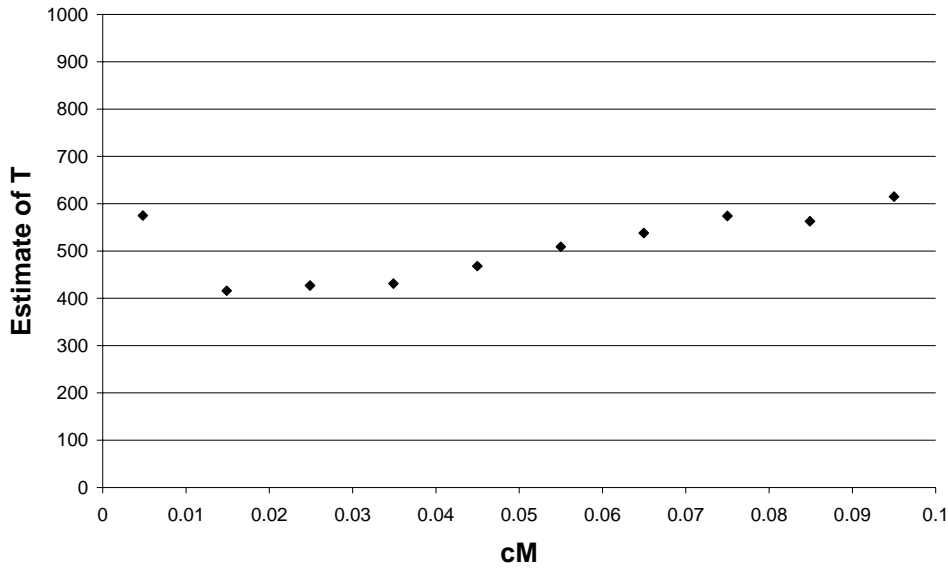
**Figure S3.** Estimate of divergence time when $T/N_e = 1$. For example, two populations of $N_e = 1000$ split 1000 generations ago ($n = 240$, $MAF > 0.10$). The ms command line to generate the data was:

```
ms 240 10000 -t 40 -r 40 1000000 -I 2 120 120 -ej 0.25 1 2
```
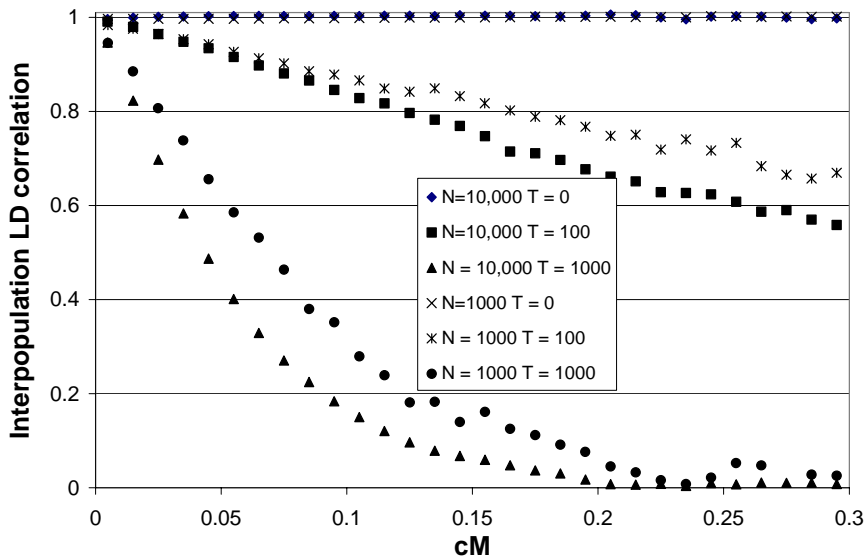


**Figure S4.** The effect of drift on interpopulation LD. Populations of $N_e = 1000$ or 10000 were simulated and divergence times of 0, 100 and 1000 generations ($n = 240$, $MAF > 0.10$) The interpopulation LD correlation was estimated using a sample size adjustment for the variance of $r$ in both populations. The Figure shows that although drift has an effect on the interpopulation LD correlation, the effect of separation time is much larger.

REFERENCES

1. Sved JA (1971) Linkage disequilibrium and homozygosity of chromosome segments in finite populations. Theor Popul Biol 2:125-141