

**Supplemental Table 1. The sizes (in kilobases) of the data sets utilized in the study.**

Data set	Chr.	Inclusive site definition		Restricted site definition			Total number
		Number of CpG sites	Number of non-CpG sites	Number of CpG sites	Number of non-CpG sites	of sites	
Filtered	A	38,903	1,916,669	23,883	715,818		1,955,573
	X	1,340	78,668	866	30,199		80,009
	Y	30	1,663	18	617		1,693
NCNR	A	9,643	581,934	5,942	226,280		591,577
	X	297	22,243	195	8,872		22,540
	Y	6	407	4	159		413
CpG islands	A	2,666	10,982	1,626	1,456		13,649
	X	55	237	34	34		292

For the description of the data sets, see Methods.

**Supplemental Table 2. The divergence estimates (per site) for the filtered and NCNR data sets.**

Data set	Chromosomes	Inclusive site definition		Restricted site definition		
		CpG sites	Non-CpG sites	CpG sites	Non-CpG sites	All sites
Filtered	A	0.168	0.009	0.204	0.011	0.013
	X	0.141	0.007	0.166	0.008	0.009
	Y	0.217	0.012	0.276	0.014	0.016
NCNR	A	0.180	0.009	0.222	0.011	0.012
	X	0.151	0.007	0.181	0.008	0.009
	Y	0.229	0.012	0.295	0.013	0.015

**Supplemental Table 3. The diversity estimates, ( $\pi \times 10^{-2}$ ) in contemporary humans used to correct for ancient diversity in the human-chimpanzee common ancestor.**

Sites	Autosomes	X	Y
All sites	0.100 (1,872,049)	0.071 (72,684)	0.009 (2,398)
CpG sites	1.610 (35,988)	1.251 (1,131)	0.150 (31)
Non-CpG sites	0.072 (1,836,061)	0.053 (31,553)	0.007 (2,367)
CpG sites in CpG islands	0.241 (1,997)	0.135 (45)	n/a

The number of sites assayed (in kilobases) is given in the parentheses.

**Supplemental Table 4. Male mutation bias from the X-Y and Y-autosome comparisons at non-CpG sites in the NCNR data set.**

Correction for ancient diversity	Inclusive site definition		Restrictive site definition	
	$\alpha_{X/Y}$	$\alpha_{Y/A}$	$\alpha_{X/Y}$	$\alpha_{Y/A}$
	(95% CI)	(95% CI)	(95% CI)	(95% CI)
None	2.76 (2.50-3.06)	1.81 (1.63-2.03)	2.32 (2.09-2.60)	1.51 (1.35-1.71)
$2x\pi$	4.17 (3.66-4.79)	3.03 (2.60-3.59)	3.13 (2.76-3.60)	2.19 (1.89-2.56)
$4x\pi$	8.67 (7.00-11.4)	9.73 (6.70-16.7)	4.89 (4.12-5.95)	4.02 (3.20-5.22)

**Supplemental Table 5. Male mutation bias from the X-Y and Y-autosome comparisons at CpG sites in the NCNR data set.**

Correction for ancient diversity	Inclusive site definition		Restrictive site definition	
	$\alpha_{X/Y}$	$\alpha_{Y/A}$	$\alpha_{X/Y}$	$\alpha_{Y/A}$
No	2.03 (1.80-2.31)	1.75 (1.77-2.08)	2.38 (2.02-2.85)	1.97 (1.57-2.51)
$2x\pi$	2.95 (2.53-3.46)	3.26 (2.56-4.35)	3.33 (2.72-4.19)	3.31 (2.40-4.84)
$4x\pi$	5.50 (4.39-7.08)	28.3 (9.69- $\infty$ )	5.59 (4.21-8.01)	10.75 (5.27-86.7)