

Table S1. Population names and geographic origin of Y chromosome samples used in this study.

Region/Population	N	Country	Lat	Long	Source
Africa (N=26)					
Baka-Pygmies	3	Cameroon	2.9	14.3	(Lachance et al. 2012)
Bakola-Pygmies	1	Cameroon	2.9	14.3	(Lachance et al. 2012)
Bedzan-Pygmies	1	Cameroon	2.9	14.3	(Lachance et al. 2012)
Congo-Pygmies	3	Congo	0.9	15.9	This study
Hadza	5	Tanzania	-3.7	35.1	(Lachance et al. 2012)
Luhya	3	Kenya	0.6	34.8	(Drmanac et al. 2010)
Maasai	2	Kenya	-1.3	35.3	(Drmanac et al. 2010)
Sandawe	5	Tanzania	-4.9	35.8	(Lachance et al. 2012)
Yoruba	3	Nigeria	7.4	3.9	(Drmanac et al. 2010)
Near East and the Caucasus (N=45)					
Abkhazians	2	Georgia	43.1	40.6	This study
Arab-Christian	3	Israel	32.9	35.3	This study
Arab-Muslim	2	Israel	32.8	35.2	This study
Arabs	2	Saudi Arabia	33.8	35.6	This study
Armenians	6	Armenia	40.2	44.5	This study
Assyrians	3	Armenia	40.1	44	This study
Avars	2	Russia	42.2	47	This study
Azerbaijanis	2	Azerbaijan	40.1	47.5	This study
Balkars	1	Russia	43.7	44.2	This study
Circassians	2	Russia	44.7	40	This study
Druze	2	Israel	32.8	35.2	This study
Georgians	1	Georgia	43	41.4	This study
Georgians-Imeretins	1	Georgia	41.8	44.7	This study
Iranians	4	Iran	35.1	51.2	This study
Jordanians	2	Jordan	31.9	35.9	This study
Kabardins	2	Russia	43.5	43.6	This study
Kumyks	1	Russia	43	47.5	This study
Lebanese	1	Lebanon	33.8	35.6	This study
Lezgins	2	Russia	41.6	48.3	This study
North-Ossetians	2	Russia	43.2	43.9	This study
Tabasarans	2	Russia	42	47.9	This study
Europe (N=81)					
Albanians	3	Albania	41.3	19.8	This study
Baptized-Tatars	1	Russia	55.9	51.2	This study
Bashkirs	2	Russia	51.9	58.2	This study
Belarusians	3	Belarus	52.2	24.4	This study
Central-Russians	3	Russia	57.8	28.3	This study
Chuvashes	1	Russia	53.7	54.7	This study

Zaporizhsky Cossacks	2	Ukraine	47.8	35.2	This study
Kuban Cossacks	2	Russia	45	38.7	This study
Croats	3	Bosnia-Herzegovina	43.3	17.8	This study
Estonians	5	Estonia	59	22.8	This study
French	1	France	48.9	2.4	Personal Genome Project (PGP)
Germans	1	Germany	52.5	10.1	This study
Hungarians	2	Ukraine	48	24.3	This study
Italians	3	Italy	43.6	11	(Drmanac et al. 2010)
Karelians	3	Russia	61.2	32.4	This study
Komis	2	Russia	62.6	58	This study
Latvians	2	Latvia	56.9	24.5	This study
Lithuanians	1	Lithuania	55.3	24	This study
Maris	3	Russia	55.4	56	This study
Mishar-Tatars	1	Russia	54.8	51.4	This study
Moldavians	1	Moldova	47.1	28.7	This study
Mordvins	3	Russia	54.1	43.3	This study
North-Russians	2	Russia	64.7	43.4	This study
NW-Europeans	5	Europe	53.4	6.5	(Drmanac et al. 2010)
Poles	1	Poland	52.2	21	PGP
Portuguese	1	Portugal	38.7	-9	PGP
Saami	3	Norway	69.9	25.2	This study
Swedes	2	Sweden	59.4	18	This study
Tatars	2	Russia	54.6	53.8	This study
Udmurts	3	Russia	57.3	54.1	This study
Ukrainians	7	Ukraine	51.5	31.4	This study
Ukrainians	2	Ukraine	51.5	31.4	PGP
British	2	United Kingdom	51.5	-0.1	PGP
Vepsas	3	Russia	61.4	34.8	This study
Central Asia (N=20)					
Ishkasim	2	Tajikistan	37	71.7	This study
Rushan-Vanch	2	Tajikistan	38.5	71.7	This study
Shugnan	1	Tajikistan	37.5	72.4	This study
Tajiks	1	Tajikistan	38.4	68.9	This study
Kazakhs	3	Kazakhstan	47.5	61.5	This study
Kyrgyz	7	Kyrgyzstan	42.2	77	This study
Turkmens	3	Uzbekistan	42.6	58.9	This study
Uzbek	1	Uzbekistan	41	70.9	This study
South Asia (N=25)					
Asur	1	India	23.7	85.3	This study
Baliya	1	India	14.7	77.6	This study
Bengali	1	India	22.9	88.3	This study
Brahmin	2	India	25.3	83.1	This study

Bangladeshi	2	Bangladesh	23.7	90.4	This study
Gond	1	India	22.2	79.9	This study
Gujaratis	3	India	23.5	72.8	(Drmanac et al. 2010)
Gupta	1	India	25.5	82.9	This study
Ho	1	India	24.1	84.2	This study
Kapu	1	India	17.7	83.2	This study
Kol	1	India	24.5	83.2	This study
Kshatriya	1	India	25.7	82.7	This study
Kurmi	1	India	25.2	83	This study
Madhya-Pradesh	1	India	23.3	77.1	This study
Malayan	1	India	10.4	76.7	This study
Orissa	1	India	20.5	85.9	This study
Punjabi	1	India	17	75.9	This study
Nepalese	2	Nepal	26.8	87.3	This study
Santhal	1	India	22.8	85.7	This study
Thakur	1	India	27	77.2	This study
East and Southeast Asia (N=42)					
Aeta	3	Philippines	17.6	121	This study
Agta	3	Philippines	17.8	121.2	This study
Bajo	4	Indonesia	-4	122.6	This study
Batak	3	Philippines	10.5	119.5	This study
Burmese	8	Myanmar	16.4	95.9	This study
Chinese	2	China	32	120.3	PGP
Dusun	3	Brunei	4.8	114.6	This study
Han	1	China	39.9	116.4	(Drmanac et al. 2010)
Igorot	1	Philippines	17.1	121	This study
Japanese	1	Japan	35.7	139.7	(Drmanac et al. 2010)
Lebbo	4	Indonesia	1.7	117.2	This study
Murut	5	Brunei	4.5	114.7	This study
Vietnamese	4	Vietnam	21	105.9	This study
Oceania (N=6)					
Koinanbe	3	Papua New Guinea	-5.5	144.6	This study
Kosipe	3	Papua New Guinea	-8.5	147.2	This study
Siberian and Mongolia (N=62)					
Altai-Kizhi	3	Russia	51.3	85.4	This study
Altai-Telengit	1	Russia	50.8	88.3	This study
Buryats	12	Russia	53.8	102.8	This study
Chukchis	2	Russia	64.7	177.5	(Clemente et al. 2014)
Eskimo	2	Russia	64.5	-172.9	(Clemente et al. 2014)
Evenks	3	Russia	58.9	128.7	This study
Evens	8	Russia	65.3	130	This study
Kets	2	Russia	62.5	86.3	This study
Koryaks	12	Russia	59.1	159.9	(Clemente et al. 2014)

Forest-Nenets	1	Russia	64.9	77.8	This study
Tundra-Nenets	2	Russia	67	78.2	This study
Selkups	1	Russia	65.7	87	This study
Shor	1	Russia	52.8	87.9	This study
Tuvinians	2	Russia	51.5	92.8	This study
Yakuts	4	Russia	62.3	132	This study
Mongol-Khalkh	1	Mongolia	45.7	106.3	This study
Mongol-Khalkh	4	Mongolia	43.5	104.3	This study
Mongol-Zakhchin	1	Mongolia	48	91.6	This study
Andes (N=13)					
Calchaquies	3	Argentina	-25.1	-66.2	This study
Colla	8	Argentina	-24.2	-66.3	This study
Wichí	2	Argentina	-23.2	-64.1	This study
Total	320				

Samples not used in geographically explicit analyses (N=153)

Jews (N=18)

Ashkenazi-Jews	2	France	NA	NA	This study
Cochin-Jews	1	India	NA	NA	This study
Ethiopian-Jews	1	Ethiopia	NA	NA	This study
Georgian-Jews	1	Georgia	NA	NA	This study
Iranian-Jews	1	Iran	NA	NA	This study
Iraqi-Jews	3	Iraq	NA	NA	This study
Kurdistan-Jews	1	Iraq	NA	NA	This study
Moroccan-Jews	1	Morocco	NA	NA	This study
Mumbai-Jews	2	India	NA	NA	This study
Turkey-Jews	1	Turkey	NA	NA	This study
Uzbekistan-Jews	2	Uzbekistan	NA	NA	This study
Yemenite-Jews	2	Yemen	NA	NA	This study

Others (N=33)

African-Americans	3	USA			(Drmanac et al. 2010)
Australian	2	Australia	-17.1	132.5	This study
CEPH-pedigree	7	Europe	NA	NA	(Drmanac et al. 2010)
Estonian-pedigree (6 excluded)	8	Estonia	59	22.8	This study
Estonians	2	Estonia	59	22.8	PGP
German duplicate sequence	1	Germany	52.5	10.1	This study
Komi duplicate sequence	1	Russia	62.6	58	This study
Latino/Hispanic	1	Colombia	NA	NA	PGP
Mbo	2	Cameroon	5.7	9.9	This Study
Mexicans	2	USA	NA	NA	(Drmanac et al. 2010)
Murut duplicate sequence	1	Brunei	4.5	114.7	This study
Puerto-Ricans	2	Puerto_Rico	NA	NA	(Drmanac et al. 2010)
Ukrainians duplicate sequence	1	Ukraine	51.5	31.4	PGP

Geographic ancestry not known (N=102)	N.A.	NA	NA	PGP
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Total	473	(456 without 13 relatives and 4 duplicates)		
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Note: The total number of newly reported sequences, excluding 6 relatives and 3 duplicates, is 299, including 16 released under accession number PRJEB7258 (Clemente et al. 2014).

Table S2. The effect of different quality filters on the number of Y chromosome SNPs in 475 male samples. L - total length of chrY considered, including variable and non-variable positions; SNPs - total number of binary SNPs; Recurrent – number of SNPs that occur in at least three unique lineages; FS - average number of father – son differences in 24 Dutch father-son pairs, 6 Estonian father-son pairs and 1 brother-brother pair, including cases where father has an ancestral allele and the son or one of the brothers has a derived allele.

	L	SNPs	Recurrent	FS
Without filters	59,373,566	82,306	NA	180.26
<5% no-calls or missing data per SNP	NA	59,116	29,171	30.1
Effect of additional filters				
a. >5x unique sequence coverage in >95% individuals filter	46,367,847	52,341	2,190	24.1
b. Chr X normalized coverage filter	12,315,045	47,868	1,475	12.2
c. regional exclusion mask	10,793,302	42,340	948	3.26
d. re-mapping filter	9,831,618	38,943	656	1.77
Filter combinations				
b + c	10,388,723	41,407	898	3.03
b + d	9,417,600	37,388	628	1.39
c + d	8,980,539	35,472	536	1.19
b + c + d	8,816,836	34,861	512	1.16
a + b + d	8,819,704	35,672	588	0.61
a + b + c + d	8,268,341	33,365	481	0.52

Note: Filtering scheme a + b + d, highlighted in bold, was used in subsequent analyses. The bed-file with coordinates of the used ChrY segments are listed in the Supplementary Table S2a_b_d for the a+b+d filters and Supplementary Table S2c for the regional exclusion mask.

Table S3. Summary statistics of mtDNA and Y chromosome genetic diversity by continental regions.

Continental region	n	mtDNA (L=16.6 Kb)				NRY (L=8.8 Mb)			
		S	PS	mpd ± SE	$\pi \pm SE (10^{-3})$	S	PS	mpd ± SE	$\pi \pm SE (10^{-5})$
Africa	26	371	191	67.6 ± 30.0	4.1 ± 2.0	6,323	5667	987.8 ± 434.1	11.20 ± 4.92
Andes	13	116	33	32.1 ± 15.0	1.9 ± 1.0	1,104	751	256.1 ± 117.3	2.90 ± 1.33
Central Asia	20	245	57	36.9 ± 16.8	2.2 ± 1.1	2,490	744	403.5 ± 180	4.57 ± 2.04
Europe	81	412	141	25.6 ± 11.3	1.5 ± 0.8	5,837	2698	586.1 ± 252.8	6.65 ± 2.87
Near East	45	347	105	31.7 ± 14.1	1.9 ± 1.0	5,841	2867	644.1 ± 280.1	7.30 ± 3.18
Papua New Guinea	6	88	27	37.1 ± 18.9	2.2 ± 1.3	1,060	480	612.0 ± 306.3	6.94 ± 3.47
Southeast and East Asia	42	353	149	34.6 ± 15.4	2.1 ± 1.0	8,040	5773	749.2 ± 326.3	8.49 ± 3.70
Siberia	62	388	143	33.3 ± 14.7	2.0 ± 1.0	3,542	1578	674.3 ± 291.8	7.65 ± 3.31
South Asia	25	257	86	32.2 ± 14.5	1.9 ± 1.0	4,575	2593	649.1 ± 286.8	7.36 ± 3.25

Note: mtDNA – mitochondrial DNA, NRY – non-recombining region of the Y chromosome, L – sequence length, S – number of segregating sites, PS – number of private sites, mpd – number of mean pairwise differences, SE – standard error, π - mpd normalized for sequence length.

Table S4. Regional male-specific effective population sizes estimated from Y chromosome data at the Holocene dip and present time.

	Nm (now)	Nm (dip)	T (dip)
Africa	5,000	1,000	5.4
Near East	44,000	3,000	8.3
Europe	40,000	1,000	5.0
South Asia	16,000	3,000	4.3
Central Asia	2,000	1,000	4.7
Southeast Asia	24,000	4,000	5.9
Siberia	13,000	1,000	1.4

Note: the T estimates are presented in thousands of years assuming generation time of 32 years (Fenner 2005).

Table S5. Assignment of Y chromosome haplogroups by time thresholds.

Estimates of age in thousands of years are based on the chrY mutation rate of 0.74×10^{-9} /bp/yr used elsewhere in this paper. Assignment of haplogroup depth level reflects the distance from tips to the haplogroup root.

Level	Age	Haplogroup names
I	~>40 ky	A, B, C, D, E, F, G, H
II	>20 ky	B2, B4, B5, E1, E2, R1, R2
III	>10 ky	E1a, E1b, E1c, R1a, R1b
IV	>5 ky	E1a1, E1a2, R1a1, R1b2

Table S6. Haplogroup and population affiliation of the Y chromosome samples used in this study.

No	Assembly ID	Short ID	Population/Country	Haplogroup
1	GRC13292545	#N/A	Mbo	A00
2	GRC13292546	#N/A	Mbo	A00
3	GS000016204-ASM	ISR07	Ethiopian-Jews	A3
4	GS000035247-ASM	CongPy6	Congo-Pygmies	A2
5	GS000035246-ASM	CongPy3	Congo-Pygmies	B2
6	GS000001577-ASM	Sandw4	Sandawe	B5
7	GS000003125-ASM	Hadza4	Hadza	B5
8	GS00319-DNA_A01_1100_37-ASM	BakaPy1	Baka-Pygmies	B4
9	GS00319-DNA_C01_1100_37-ASM	BakaPy3	Baka-Pygmies	B4
10	GS000001807-ASM	Hadza5	Hadza	B4
11	GS000003124-ASM	Hadza2	Hadza	B4
12	GS00319-DNA_G01_1100_37-ASM	Hadza3	Hadza	B4
13	GS00319-DNA_G02_1100_37-ASM	Sandw5	Sandawe	B4
14	NA18940-200-37-ASM	JPT_1	Japanese	D2
15	GS000010424-ASM	Chn2	Chinese	D1
16	GS000035037-ASM	NplTA1	Tamang	D1
17	NA19239-L2-200-37-ASM	YRI_12	Yoruba	E4
18	GS00253-DNA_B02_200_37-ASM	hu604D39	NA	E1b
19	GS000035245-ASM	CongPy1	Congo-Pygmies	E1a1
20	NA18504-200-37-ASM	YRI_3	Yoruba	E1a1
21	NA19834-200-37-ASM	ASW_5	African-Americans	E1a1
22	NA19026-200-37-ASM	LWK_4	Luhya	E1a1
23	GS00319-DNA_B01_1100_37-ASM	BakaPy2	Baka-Pygmies	E1a1
24	GS00319-DNA_D01_1100_37-ASM	BakoPy1	Bakola-Pygmies	E1a1
25	GS00319-DNA_F01_1100_37-ASM	Hadza1	Hadza	E1a1
26	NA18501-200-37-ASM	YRI_1	Yoruba	E1a2
27	NA19700-200-37-ASM	ASW_1	African-Americans	E1a2
28	NA19703-200-37-ASM	ASW_3	African-Americans	E1a2
29	GS00319-DNA_E01_1100_37-ASM	BedzPy1	Bedzan-Pygmies	E1a2

30	NA19025-200-37-ASM GS00319-DNA_C02_1100_37-	LWK_3	Luhya	E1a2
31	ASM	Sandw1	Sandawe	E1a2
32	NA19020-200-37-ASM GS00319-DNA_D02_1100_37-	LWK_2	Luhya	E1a2
33	ASM GS00319-DNA_E02_1100_37-	Sandw2	Sandawe	E2b3
34	ASM	Sandw3	Sandawe	E2b3
35	GS000016217-ASM	CArab1	Arab-Christian	E2b2
36	GS000016206-ASM	CArab3	Arab-Christian	E2b1
37	GS000015230-ASM GS00253-DNA_H01_200_37-	huF1DC30	NA	E2b1
38	ASM	huAE6220	NA	E2b1
39	GS000016214-ASM	ISR21	Uzbekistan-Jews	E2b1
40	GS000014561-ASM GS00253-DNA_F01_200_37-	hu016B28	NA	E2b1
41	ASM	hu04FD18	NA	E2b1
42	GS000011811-ASM	hu4BF398	US	E2a3
43	GS000016179-ASM	Iran4	Iranians	E2a3
44	GS000015708-ASM	hu8F918A	NA	E2a2
45	NA21732-200-37-ASM	MKK_1	Maasai	E2a2
46	NA21737-200-37-ASM	MKK_3	Maasai	E2a2
47	GS000017206-ASM	Est4	Estonians	E2a1
48	GS000015892-ASM	huFA70A3	US	E2a1
49	GS000035021-ASM	Alban1	Albanians	E2a1
50	GS000016441-ASM	UK2	British	E2a1
51	GS000014562-ASM	hu627574	NA	E2a1
52	NA20510-200-37-ASM	TSI_3	Italians	E2a1
53	GS000015153-ASM	huD52556	US	E2a1
54	GS000035227-ASM	Aus2	Australian	E2a1
55	GS000013763-ASM	TatarM1	Mishar-Tatars	E2a1
56	GS000015172-ASM	hu011C57	NA	E2a1
57	GS000017005-ASM	Bajo19	Bajo	C2
58	GS000017004-ASM	Bajo2	Bajo	C2a1a
59	GS000035255-ASM	Koinb2	Koinanbe	C2a2a
60	GS000035258-ASM	Koinb3	Koinanbe	C2a2a
61	GS000035686-ASM	Koinb1	Koinanbe	C2a2a
62	GS000020271-ASM	Dusun8	Dusun	C9
63	GS000017146-ASM	MPLc1	Madhya-Pradesh	C5a
64	GS000016936-ASM	Lebb3	Lebbo	C7a
65	GS000016937-ASM	Lebb4	Lebbo	C7a
66	GS000019981-ASM	Murut3	Murut	C7b1
67	GS000035257-ASM	Aeta3	Aeta	C7b1
68	GS000020272-ASM	Murut5	Murut	C7b1

69	GS000022099-ASM	Murut5_duplicate	Murut	C7b1
70	GS000015179-ASM	Chn1	Chinese	C3f1
71	GS000022091-ASM	Bur355	Buryats	C3f1
72	GS000014418-ASM	Bur2	Buryats	C3f1
73	GS000022094-ASM	Bur578	Buryats	C3f1
74	GS000020113-ASM	Bur383	Buryats	C3f1
75	GS000013761-ASM	Bur11	Buryats	C3f1
76	GS000022090-ASM	Bur350	Buryats	C3f1
77	GS000022092-ASM	Bur361	Buryats	C3f1
78	GS000022066-ASM	Bur318	Buryats	C3f1
79	GS000022093-ASM	Bur398	Buryats	C3f1
80	GS000019992-ASM	Krk116	Koryaks	C3i
81	GS000022071-ASM	KrkG3	Koryaks	C3g
82	GS000022440-ASM	Altai6	Altai-Kizhi	C3g
83	GS000013752-ASM	Kaz2	Kazakhs	C3h
84	GS000014335-ASM	Evnk2	Evenks	C3c2
85	GS000019993-ASM	Krk119	Koryaks	C3c2
86	GS000016168-ASM	koryak33	Koryaks	C3c2
87	GS000016169-ASM	koryak42	Koryaks	C3c2
88	GS000035117-ASM	Mong3	Mongol-Zakhchin	C3c1a
89	GS000020004-ASM	Evk14	Evenks	C3c1a
90	GS000020126-ASM	Bur530	Buryats	C3c1a
91	GS000022293-ASM	EvenM2	Evens	C3c1a
92	GS000034297-ASM	EvN21	Evens	C3c1a
93	GS000016165-ASM	EvenS1	Evens	C3c1a
94	GS000020129-ASM	EvenM1	Evens	C3c1a
95	GS000022292-ASM	EvenM3	Evens	C3c1a
96	GS000016806-ASM	Mal1	Malayan	H3
97	GS000019903-ASM	Burm10	Burmese	H2
98	GS000035123-ASM	Balija1	Balija	H1b
99	GS000016965-ASM	PuMc1	Punjabi	H1b
100	GS000035035-ASM	Bangl2	Bangladeshi	H1b
101	GS000020270-ASM	Burm14	Burmese	H1a
102	GS000016805-ASM	Asur1	Asur	H1a
103	GS000035039-ASM	Khsat1	Kshatriya	H1a
104	GS000016821-ASM	Kol1	Kol	H1a
105	GS000035034-ASM	Bangl1	Bangladeshi	H1a
106	GS000014366-ASM	Lezg3	Lezgins	G2a1
107	GS000016899-ASM	Mold3	Moldavians	G2a1
108	GS000014409-ASM	Abkhaz5	Abkhazians	G2a1
109	GS000013739-ASM	NOsset6	North-Ossetians	G2a1
110	GS000014414-ASM	NOsset2	North-Ossetians	G2a1
111	GS000014475-ASM	Iran2	Iranians	G2a4

112	GS000016215-ASM	ISR22	Uzbekistan-Jews	G2a4
113	GS000016209-ASM	ISR12	Iraqi-Jews	G2a4
114	GS000011806-ASM	hu63EB0A	US	G2a2
115	NA19670-200-37-ASM	MXL_5	Mexicans	G2a2
116	GS000014413-ASM	Kabard4	Kabardins	G2a2
117	GS000016372-ASM	Pole5	Poles	G2a2
118	GS000015176-ASM	hu6C733E	US	I1g
119	GS000016442-ASM	hu032C04	US	I1g
120	GS00253-DNA_E01_200_37-ASM	hu9385BA	NA	I1e
121	GS000015888-ASM	hu88A079	NA	I1f
122	GS000016104-ASM	BelaR2	Belarusians	I1b
123	NA12891-200-37-ASM	CEPH_15	NW-Europeans	I1c
124	GS000013698-ASM	Mord3	Mordvins	I1c
125	GS000014328-ASM	Komi1	Komis	I1c
126	GS000011808-ASM	huAEADC0	NA	I1a
127	GS000010435-ASM	huB4940E	NA	I1a
128	NA06994-200-37-ASM	CEU_2	NW-Europeans	I1a
129	GS000015272-ASM	hu553620	NA	I1a
130	GS000035226-ASM	Aus1	Australian	I1a
131	GS000010320-ASM	huB1FD55	NA	I1a
132	GS000016901-ASM	Hun2	Hungarians	I1a
133	NA20511-200-37-ASM	TSI_4	Italians	I1a
134	GS000035150-ASM	Georg1	Georgians	I3
135	GS000014557-ASM	hu448C4B	US	I2e
136	GS000011817-ASM	hu775356	NA	I2d
137	GS000016450-ASM	hu82E689	US	I2d
138	GS000015709-ASM	hu939B7C	US	I2d
139	GS000016446-ASM	huDBF9DD	NA	I2d
140	GS000013164-ASM	hu0CF2EE	NA	I2d
141	GS000016337-ASM	huC434ED	NA	I2d
142	GS000010438-ASM	hu040C0A	NA	I2b
143	GS000014560-ASM	huD10E53	NA	I2a
144	GS000014570-ASM	huB4D223	US	I2a
145	GS000013764-ASM	Chuv1	Chuvashes	I2a
146	GS000015225-ASM	Ukr9	Ukrainians	I2a
147	GS000013754-ASM	croat12	Croats	I2a
148	GS000015873-ASM	croat13	Croats	I2a
149	GS000017632-ASM	Veps3	Vepsas	I2a
150	GS000016904-ASM	Lit2	Lithuanians	I2a
151	GS000014324-ASM	BelaR1	Belarusians	I2a
152	GS000014351-ASM	BelaR3	Belarusians	I2a
153	GS000013741-ASM	Azerb13	Azerbaijanis	J1c

154	GS000014421-ASM	Tabas4	Tabasarans	J1a1
155	GS000014368-ASM	Kumk2	Kumyks	J1a1
156	GS000014405-ASM	Avar1	Avars	J1a1
157	GS000013724-ASM	Lezg2	Lezgins	J1a2
158	GS000009929-ASM	hu2DBF2D	US	J1a2
159	GS000011735-ASM	hu6E4515	NA	J1b7
160	GS000035126-ASM	Armen4	Armenians	J1b6
161	GS000035125-ASM	Armen5	Armenians	J1b5
162	GS000014474-ASM	Jord2	Jordanians	J1b4
163	GS000035124-ASM	Armen2	Armenians	J1b3
164	GS000035434-ASM	Alban3	Albanians	J1b3
165	GS000016136-ASM	ISR35	Druze	J1b2
166	GS000016887-ASM	Israel49	Yemen-Jews	J1b1
167	GS000016973-ASM	ISR41	Yemenite-Jews	J1b1
168	GS000013745-ASM	Armen3	Armenians	J1b1
169	GS000016213-ASM	MArab2	Arab-Muslim	J1b1
170	GS000016180-ASM	Saudi1	Arabs	J1b1
171	GS000016277-ASM	Saudi2	Arabs	J1b1
172	GS000014410-ASM	Abkhaz6	Abkhazians	J2a11
173	GS000013751-ASM	Assyr4	Assyrians	J2a6
174	GS000035685-ASM	Georg2	Georgians-Imeretins	J2a4
175	GS000010431-ASM	hu05FD49	NA	J2a3
176	GS000015875-ASM	Kryash4	Babtized-Tatars	J2a2
177	GS000016802-ASM	Kapu1	Kapu	J2a7
178	GS000016445-ASM	huD9EE1E	NA	J2a7
179	GS000013747-ASM	Iran1	Iranians	J2a8
180	GS000016177-ASM	Kyrgyz1	Kyrgyz	J2a8
181	GS000015895-ASM	hu0A4518	US	J2a10
182	GS000035115-ASM	Kabard3	Kabardins	J2a9
183	GS000016181-ASM	Jord1	Jordanians	J2b1
184	GS000013746-ASM	Armen7	Armenians	J2b1
185	GS000016882-ASM	Israel44	Mumbai-Jews	J2b1
186	GS000010434-ASM	hu4040B8	NA	J2b4
187	GS000016373-ASM	hu33E2D9	NA	J2b2
188	GS000035147-ASM	Alban2	Albanians	J2b2
189	GS000015174-ASM	hu7123C1	NA	J2b2
190	GS000016138-ASM	ISR37	Cochin-Jews	J2b2
191	GS000013705-ASM	Tatar2	Tatars	L1b
192	GS000016135-ASM	ISR34	Druze	L1b
193	GS000016210-ASM	ISR13	Georgian-Jews	T1a1
194	GS000016212-ASM	MArab1	Arab-Muslim	T1a1
195	GS000035392-ASM	Agta1	Agta	P2
196	GS000035249-ASM	Aeta1	Aeta	S3a1

197	GS000035250-ASM	Aeta2	Aeta	S3a1
198	GS000016935-ASM	Lebb2	Lebbo	S2
199	GS000016941-ASM	Bajo17	Bajo	S1
200	GS000035260-ASM	Kosip2	Kosipe	M1c
201	GS000035256-ASM	Kosip1	Kosipe	M1c
202	GS000035365-ASM	Kosip3	Kosipe	M1c
203	GS000019966-ASM	Igrt1	Igorot	O3e
204	GS000017006-ASM	Bajo21	Bajo	O3i
205	GS000035253-ASM	Batak3	Batak	O3i
206	GS000022100-ASM	Burm15	Burmese	O3b
207	GS000019904-ASM	Burm12	Burmese	O3a1
208	GS000019902-ASM	Burm8	Burmese	O3a1
209	GS000019906-ASM	Burm20	Burmese	O3a1
210	GS000019901-ASM	Burm3	Burmese	O3a1
211	GS000019905-ASM	Burm4	Burmese	O3a1
212	GS000035248-ASM	Agta3	Agta	O1a
213	GS000035435-ASM	Agta2	Agta	O1b
214	GS000035252-ASM	Batak2	Batak	O1c
215	GS000019983-ASM	Murut6	Murut	O1c
216	GS000019985-ASM	Murut13	Murut	O1c
217	GS000035251-ASM	Batak1	Batak	O1c
218	GS000019946-ASM	VietN4	Vietnamese	O2a1
219	GS000019949-ASM	VietS3	Vietnamese	O2a1
220	GS000019953-ASM	Dusun7	Dusun	O2a2
221	GS000019979-ASM	Dusun12	Dusun	O2a2
222	GS000016803-ASM	Gond1	Gond	O2a2
223	GS000017007-ASM	Lebb1	Lebbo	O2a2
224	GS000016804-ASM	Ho1	Ho	O2a2
225	GS000019950-ASM	VietS2	Vietnamese	O2a2
226	GS000019972-ASM	VietS1	Vietnamese	O2a2
227	NA18558-200-37-ASM	CHB_4	Han	N4
228	GS000014332-ASM	Mari3	Maris	N2a1
229	GS000035244-ASM	Veps4	Vepsas	N2a1
230	GS000035432-ASM	Udmrd3	Udmurds	N2a1
231	GS000016167-ASM	EvenS3	Evens	N2a1
232	GS000016163-ASM	NentT1	Tundra-Nenets	N2a1a
233	GS000015879-ASM	NenetF3	Forest-Nenets	N2a1a
234	GS000016162-ASM	NentT2	Tundra-Nenets	N2a1a
235	GS000016968-ASM	Tuva1	Tuvinians	N2a1a
236	GS000017247-ASM	Tuva2	Tuvinians	N2a1a
237	GS000035235-ASM	Mong5	Mongol-Khalkh	N2a1a
238	GS000020108-ASM	Evk55	Evenks	N2a1a
239	GS000022441-ASM	Yakk4	Yakuts	N2a1a

240	GS000022438-ASM	Shor1	Shor	N3b
241	GS000015715-ASM	Mari2	Maris	N3a1
242	GS000013694-ASM	Udmrd2	Udmurds	N3a1
243	GS000014331-ASM	Mari1	Maris	N3a1
244	GS000035017-ASM	Udmrd4	Udmurds	N3a1
245	GS000017169-ASM	Lebn1	Lebanese	N3a2
246	GS000016166-ASM	EvenS2	Evens	N3a2
247	GS000020490-ASM	YakK3	Yakuts	N3a2
248	GS000014333-ASM	YakS8	Yakutian	N3a2
249	GS000022076-ASM	YakM1	Yakuts	N3a2
250	GS000035116-ASM	Mong2	Mongol-Khalkh	N3a5
251	GS000016190-ASM	Mong1	Mongol-Khalkh	N3a5
252	GS000035236-ASM	Mong6	Mongol-Khalkh	N3a5
253	GS000035127-ASM	Kaz3	Kazakhs	N3a5
254	GS000020491-ASM	Bur406	Buryats	N3a5
255	GS000022077-ASM	Bur336	Buryats	N3a5
256	GS000020002-ASM	Chuk9	Chukchis	N3a5
257	GS000033948-ASM	KrkG294	Koryaks	N3a5
258	GS000022068-ASM	KrkG152	Koryaks	N3a5
259	GS000019998-ASM	Esk3	Eskimo	N3a5
260	GS000020001-ASM	Chuk5	Chukchis	N3a5
261	GS000022069-ASM	KrkG233	Koryaks	N3a5
262	GS000016186-ASM	CoskK1	Kuban-Cossacks	N3a4
263	GS000016971-ASM	Veps2	Vepsas	N3a4
264	GS000035149-ASM	Karel3	Karelians	N3a4
265	GS000017207-ASM	Est18	Estonians	N3a4
266	GS000017213-ASM	Est19	Estonians	N3a4
267	GS000017380-ASM	Est17	Estonians	N3a4
268	GS000018757-ASM	Est20	Estonians	N3a4
269	GS000014416-ASM	RusPi1	North-Russians	N3a3
270	GS000035024-ASM	Saami4	Saami	N3a3b
271	GS000035025-ASM	Saami5	Saami	N3a3b
272	GS000017208-ASM	Est6	Estonians	N3a3b
273	GS000017203-ASM	Est23	Estonians	N3a3b
274	GS000017214-ASM	Est21	Estonians	N3a3b
275	GS000017219-ASM	Est24	Estonians	N3a3b
276	GS000015180-ASM	huFFAD87	Estonians	N3a3a
277	GS000020110-ASM	Evn31	Evens	N3a3a
278	GS000015228-ASM	huC5733C	Estonians	N3a3a
279	GS000016819-ASM	RusPs1	Central-Russians	N3a3a
280	GS000035148-ASM	Lat3	Latvians	N3a3a
281	GS000035027-ASM	Lat2	Latvians	N3a3a
282	GS000016907-ASM	Est11	Estonians	N3a3a

283	GS000017210-ASM	Est2	Estonians	N3a3a
284	GS000015887-ASM	huEDEA65	NA	Q3
285	GS000035120-ASM	TrkUzb3	Turkmens	Q2a
286	GS000035118-ASM	TrkUzb1	Turkmens	Q2a
287	GS000035119-ASM	TrkUzb2	Turkmens	Q2a
288	GS000019986-ASM	Murut19	Murut	Q2c
289	GS000034970-ASM	KrkG14	Koryaks	Q2b
290	GS000034185-ASM	KrkG13	Koryaks	Q2b
291	GS000022067-ASM	KrkG11	Koryaks	Q2b
292	GS000022072-ASM	KrkG55	Koryaks	Q2b
293	GS000015872-ASM	croat11	Croats	Q1d
294	GS000035038-ASM	NepBr1	Nepali	Q1d
295	GS000035030-ASM	Uzbk3	Uzbek	Q1c
296	GS000015393-ASM	Ket2	Kets	Q1c
297	GS000013716-ASM	Selkp3	Selkups	Q1c
298	GS000013717-ASM	Ket1	Kets	Q1c
299	GS000019997-ASM	Esk2	Eskimo	Q1a
300	GS000016940-ASM	Cachi3	Andean-Calchaquíes	Q1a
301	GS000019989-ASM	AndS11	Colla, Andean-HA	Q1a
302	GS000016945-ASM	Wichi3	Wichi, Andean-LA	Q1a
303	GS000016946-ASM	Wichi4	Wichi, Andean-LA	Q1a
304	GS000017077-ASM	Cachi4	Andean-Calchaquíes	Q1a
305	GS000019960-ASM	AndS41	Colla, Andean-HA	Q1a
306	GS000019961-ASM	AndT12	Colla, Andean-HA	Q1a
307	NA19735-200-37-ASM	MXL_1	Mexicans	Q1a
308	GS000016951-ASM	Colla4	Colla, Andean-HA	Q1a
309	GS000016942-ASM	Cachi5	Andean-Calchaquíes	Q1a
310	GS000020273-ASM	AndS23	Colla, Andean-HA	Q1a
311	GS000020274-ASM	AndS47	Colla, Andean-HA	Q1a
312	GS000016216-ASM	ISR23	Iranian-Jews	R2a
313	GS000016798-ASM	Thak1	Thakur	R2a
314	GS000016807-ASM	Brahm2	Brahmin	R2a
315	GS000016809-ASM	Brahm1	Brahmin	R2a
316	GS000016800-ASM	Santh1	Santhal	R2a
317	NA20845-200-37-ASM	GIH_1	Gujaratis	R2a
318	GS000014566-ASM	hu7A2F1D	NA	R1a3
319	GS000015183-ASM	hu4FE0D1	US	R1a3
320	GS000035026-ASM	Saami6	Saami	R1a1e
321	GS000035109-ASM	Swe1	Swedes	R1a1e
322	GS000035240-ASM	Swe2	Swedes	R1a1e
323	GS000011805-ASM	hu259AC7	US	R1a1d
324	GS000013704-ASM	Tatar3	Tatars	R1a1d
325	GS00253-DNA_B01_200_37-	huC30901	NA	R1a1d

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326	GS000035113-ASM	Cirkas2	Circassians	R1a1d
327	GS000010494-ASM	hu955EE1	US	R1a1d
328	GS000035238-ASM	Cosk1	Cossacks	R1a1d
329	GS000035178-ASM	UkrnW3	Ukrainians	R1a1c
330	GS000035041-ASM	Hun_3	Hungarians	R1a1c
331	GS000035179-ASM	CoskK2	Kuban-Cossacks	R1a1c
332	GS000013755-ASM	UkrN1	Ukrainians	R1a1c
333	GS000020417-ASM	hu8073B9	US	R1a1c
334	GS000016338-ASM	hu57A769	NA	R1a1c
335	GS000035176-ASM	UkrnE3	Ukrainians	R1a1c
336	GS000014330-ASM	Mord2	Mordvins	R1a1c
337	GS000035174-ASM	UkrnE2	Ukrainians	R1a1c
338	GS000016797-ASM	RusRz1	Central-Russians	R1a1b
339	GS000035121-ASM	UkrnE1	Ukrainians	R1a1b
340	GS000016916-ASM	Est27	Estonians	R1a1b
341	GS000017215-ASM	Est26	Estonians	R1a1b
342	GS000010327-ASM	hu34D5B9_duplicate	Ukrainians	R1a1a
343	GS000015891-ASM	Ukr7	Ukrainians	R1a1a
344	GS000035177-ASM	UkrnW2	Ukrainians	R1a1a
345	GS000013765-ASM	Karel1	Karelians	R1a1a
346	GS000016970-ASM	Karel2	Karelians	R1a1a
347	GS000016796-ASM	RusPs2	Central-Russians	R1a1a
348	GS000013756-ASM	RusPi2	North-Russians	R1a1a
349	GS000014329-ASM	Komi2_dupl	Komis	R1a1a
350	GS000035018-ASM	Komi2	Komi-Zyrian	R1a1a
351	GS000016174-ASM	Altai3	Altai-Kizhi	R1a2a
352	GS000016967-ASM	Altai4	Altai-Telengit	R1a2a
353	GS000016187-ASM	KyrgyzTJ2	Kyrgyz	R1a2a
354	GS000016193-ASM	KyrgyzTJ1	Kyrgyz	R1a2a
355	GS000016195-ASM	KyrgyzTJ3	Kyrgyz	R1a2a
356	GS000016875-ASM	Iran3	Iranians	R1a2
357	GS000013749-ASM	Assyr1	Assyrians	R1a2
358	GS000015893-ASM	hu60AB7C	NA	R1a2
359	GS000016207-ASM	ISR10	Ashkenazi-Jews	R1a2
360	GS00253-DNA_D01_200_37-ASM	huE80E3D	NA	R1a2
361	GS000016196-ASM	Ishk2	Ishkasim	R1a2
362	GS000035239-ASM	Cosk2	Cossacks	R1a2b
363	GS000016189-ASM	Ishk1	Ishkasim	R1a2b
364	GS000016808-ASM	OrMc1	Odisha	R1a2b
365	GS000016966-ASM	Kurmi1	Kurmi	R1a2b
366	GS000016799-ASM	Gupta1	Gupta	R1a2b

367	NA20850-200-37-ASM	GIH_4	Gujaratis	R1a2b
368	NA20846-200-37-ASM	GIH_2	Gujaratis	R1a2b
369	GS000014415-ASM	Kaz1	Kazakhs	R1a2b
370	GS000016801-ASM	Beng2	West-Bengali	R1a2b
371	GS000016972-ASM	ISR40	Iraqi-Jews	R1a2b
372	GS000014417-ASM	RVnch2	Rushan-Vanch	R1a2
373	GS000016198-ASM	ISR01	Iraqi-Jews	R1a2d
374	GS000016276-ASM	Bashk4	Bashkirs	R1a2d
375	GS000022439-ASM	Altai5	Altai-Kizhi	R1a2c
376	GS000013757-ASM	Kyrgyz4	Kyrgyz	R1a2c
377	GS000016191-ASM	Kyrgyz2	Kyrgyz	R1a2c
378	GS000016197-ASM	Kyrgyz3	Kyrgyz	R1a2c
379	GS000013758-ASM	Shugn1	Shugnan	R1a2d
380	GS000035114-ASM	Cirkas3	Circassians	R1a2d
381	GS000016974-ASM	Israel42	Mumbai-Jews	R1a2d
382	GS000016171-ASM	Balkar2	Balkars	R1a2d
383	GS000016188-ASM	RVnch1	Rushan-Vanch	R1a2d
384	GS000035237-ASM	Azerb24	Azerbaijanis	R1a2d
385	GS000016192-ASM	Tajik1	Tajiks	R1b15
386	GS000016134-ASM	Bashk3	Bashkirs	R1b13
387	GS000035234-ASM	Mong4	Mongol-Khalkh	R1b13
388	GS000014406-ASM	Avar9	Avars	R1b11
389	GS000016032-ASM	huC92BC9	US	R1b11
390	GS000016881-ASM	Israel43	Kurdistan-Jews	R1b11
391	GS000016133-ASM	ISR31	Turkey-Jews	R1b11
392	GS000016886-ASM	Israel48	Moroccan-Jews	R1b11
393	GS000014364-ASM	Tabas17	Tabasarans	R1b11
394	GS000035173-ASM	Armen1	Armenians	R1b11
395	GS000013750-ASM	Assyr3	Assyrians	R1b11
396	GS000014559-ASM	hu297562	NA	R1b11
397	GS000012713-ASM	hu470099	NA	R1b17
398	GS000011807-ASM	hu241DEA	US	R1b18
399	GS000015189-ASM	hu79F922	US	R1b18
400	GS000015227-ASM	huAFA81C	NA	R1b8
401	GS000035175-ASM	UkrnW1	Ukrainians	R1b8
402	GS000009932-ASM	huD81F3D	NA	R1b6
403	GS000016334-ASM	huC3160A	NA	R1b6
404	GS000015885-ASM	hu2843C9	US	R1b6
405	GS000009920-ASM	huBA30D4	NA	R1b6
406	GS000016014-ASM	huEBD467	NA	R1b6
407	GS000009926-ASM	hu0E64A1	NA	R1b
408	GS000016029-ASM	hu68929D	NA	R1b6
409	GS000012712-ASM	huDBD591	NA	R1b6

410	GS00253-DNA_A01_200_37-ASM	hu43860C	NA	R1b6
411	GS000015155-ASM	hu7B594C	NA	R1b6
412	GS000009931-ASM	huC29627	US	R1b6
413	GS000015175-ASM	huFE71F3	NA	R1b6
414	GS000006909-ASM	huA90CE6	US	R1b6
415	GS000011740-ASM	huAEC1B0	NA	R1b6
416	GS000020414-ASM	hu48C4EB	US	R1b6
417	GS000015710-ASM	hu432EB5	US	R1b3
418	GS000016891-ASM	Ger3	Germans	R1b3
419	PS_GS000016891-ASM	Ger3	Germans	R1b3
420	GS000015711-ASM	Pur_4	Puerto-Ricans	R1b3
421	HG00731-200-37-ASM	PUR_1	Puerto-Ricans	R1b3
422	GS000010437-ASM	hu2FEC01	US	R1b3
423	GS000019959-ASM	AndT7	Colla, Andean-HA	R1b3
424	GS000019988-ASM	AndT13	Colla, Andean-HA	R1b3
425	GS000016375-ASM	huA05317	US	R1b3
426	GS000011814-ASM	huF5AD12	NA	R1b3
427	GS000015229-ASM	Fra1	French	R1b3
428	GS000010426-ASM	huFAF983	NA	R1b3
429	GS000015874-ASM	Mord1	Mordvins	R1b3
430	GS000016015-ASM	hu599905	NA	R1b3
431	GS000015884-ASM	hu1378E3	NA	R1b3
432	GS000010436-ASM	hu3CAB43	US	R1b1
433	NA20509-200-37-ASM	TSI_2	Italians	R1b1
434	GS000014568-ASM	hu72C17A	NA	R1b1
435	GS000016030-ASM	hu3A8D13	NA	R1b1
436	GS000011738-ASM	hu7DCBF9	US	R1b1
437	GS000016885-ASM	CArab2	Arab-Christian	R1b1
438	GS000016333-ASM	huED0F40	US	R1b1
439	NA07357-200-37-ASM	CEU_3	NW-Europeans	R1b1
440	GS000016139-ASM	ISR38	Ashkenazi-Jews	R1b1
441	GS000014563-ASM	hu19C09F	US	R1b1
442	NA19649-200-37-ASM	MXL_3	Mexicans	R1b1
443	GS000011809-ASM	huC14AE1	US	R1b1
444	GS000015233-ASM	Port1	Portugese	R1b3
445	GS000016027-ASM	hu589D0B	US	R1b6
446	GS000011737-ASM	hu2C1D94	US	R1b5
447	GS000015186-ASM	hu0D879F	NA	R1b5
448	GS000015223-ASM	hu64DBF7	US	R1b5
449	NA12889-L2-200-37-ASM	CEPH_13	NW-Europeans	R1b5
450	NA12882-200-37-ASM	ped_1463_6	CEPH-pedigree	R1b5
451	NA12883-200-37-ASM	ped_1463_7	CEPH-pedigree	R1b5

452	NA12884-200-37-ASM	ped_1463_8	CEPH-pedigree	R1b5
453	NA12886-L2-200-37-ASM	ped_1463_10	CEPH-pedigree	R1b5
454	NA12877-200-37-ASM	ped_1463_1	CEPH-pedigree	R1b5
455	NA12888-200-37-ASM	ped_1463_12	CEPH-pedigree	R1b5
456	NA12893-200-37-ASM	ped_1463_17	CEPH-pedigree	R1b5
457	GS000010323-ASM	hu050E9C	NA	R1b2
458	GS000014565-ASM	hu4BE6F2	US	R1b2
459	GS000011810-ASM	hu7852C5	US	R1b2
460	GS000020420-ASM	hu3073E3	NA	R1b2
461	GS000010425-ASM	hu4339C0	US	R1b2
462	GS000015191-ASM	huBE0B25	NA	R1b2
463	GS000011739-ASM	UK1	British	R1b2
464	GS000015221-ASM	huEA4EE5	Latino/Hispanic	R1b2
465	GS000016031-ASM	huDE435D	NA	R1b2
466	GS000016371-ASM	hu4B0812	US	R1b2
467	GS000011761-ASM	huF5E0B6	NA	R1b2
468	GS000016028-ASM	hu8E2A35	NA	R1b2
469	NA10851-200-37-ASM	CEU_4	NW-Europeans	R1b2
470	GS000015152-ASM	hu44DCFF	US	R1b2
471	GS000015178-ASM	hu619F51	US	R1b2
472	GS000009928-ASM	huBAAC98	NA	R1b2
473	GS000009930-ASM	huA4E2CF	NA	R1b2
474	GS000014569-ASM	hu5FB1B9	NA	R1b2

Table S7. Age estimates of Y chromosome clades reported in Figure S3

No - node number, Name - node name, Post - posterior support to the clade, Age - average age estimate (years), using 0.74×10^{-9} mutations/base/year mutation rate (see SI3 for further details), Lower - lower 95% boundary, Upper - upper 95% boundary of the age estimate, a - considering only the variance of branch length estimation in BEAST, b - considering also the uncertainty due to the confidence intervals of the mutation rate $0.63-0.95 \times 10^{-9}$

No	Name	Post	Age	Lower ^a	Upper ^a	Lower ^b	Upper ^b
1	root	1.00	253,884	246,325	261,464	191,875	307,116
2	AT	1.00	148,050	143,587	152,696	111,847	179,357
3	BT	1.00	99,802	96,540	103,109	75,200	121,113
4	DT	1.00	71,760	69,777	73,799	54,353	86,685
5	CT	1.00	71,048	69,043	73,054	53,781	85,810
6	GT	1.00	51,557	50,206	52,911	39,108	62,150
7	HT	0.80	51,328	50,004	52,630	38,951	61,820
8	IT	1.00	50,460	49,208	51,729	38,331	60,761
9	K	1.00	48,995	47,746	50,210	37,192	58,977
10	NR	0.29	48,871	47,622	50,085	37,095	58,831
11	MR	1.00	48,572	47,287	49,812	36,834	58,510
12	P	1.00	48,142	46,813	49,445	36,465	58,079
13	P1	1.00	35,282	33,662	36,917	26,221	43,362
14	R	1.00	28,891	27,240	30,540	21,219	35,873
15	R1	1.00	23,729	22,151	25,314	17,255	29,734
16	R1a	1.00	5,884	5,418	6,592	4,220	7,743
17	R1a2	1.00	5,556	5,132	6,240	3,997	7,330
18		0.32	5,409	5,051	5,782	3,934	6,792
19		0.08	5,343	4,979	5,716	3,878	6,714
20		0.06	5,206	4,806	5,592	3,744	6,569
21		0.04	5,144	4,737	5,548	3,690	6,516
22		0.13	4,986	4,488	5,465	3,496	6,419
23	R1a2a	1.00	4,339	3,570	5,036	2,781	5,915
24		1.00	833	504	1,296	393	1,522
25		1.00	546	239	847	186	994
26		1.00	578	255	925	199	1,087
27		0.09	5,084	4,592	5,546	3,577	6,514
28		1.00	1,241	783	1,770	610	2,079
29		1.00	690	433	998	337	1,173
30		0.39	587	337	861	263	1,011
31		1.00	4,829	4,315	5,287	3,361	6,210
32		0.40	4,702	4,131	5,164	3,218	6,066
33		1.00	4,236	3,633	4,823	2,830	5,665
34		1.00	3,860	3,267	4,487	2,545	5,271
35		1.00	3,372	2,767	4,004	2,155	4,703

36		0.99	3,091	2,467	3,748	1,922	4,403
37		1.00	3,431	2,772	4,107	2,159	4,824
38		1.00	3,292	2,501	4,078	1,948	4,790
39		0.86	5,325	4,938	5,737	3,846	6,738
40		0.71	5,076	4,497	5,559	3,503	6,530
41		0.34	4,935	4,314	5,430	3,360	6,378
42		1.00	649	331	1,077	257	1,265
43		0.99	4,727	4,000	5,282	3,116	6,204
44	R1a1	1.00	5,538	5,127	6,052	3,994	7,109
45		0.29	5,451	5,052	5,929	3,936	6,964
46		1.00	5,298	4,889	5,752	3,809	6,756
47		1.00	4,558	3,910	5,098	3,046	5,988
48		1.00	4,314	3,640	4,914	2,835	5,773
49		0.34	4,180	3,481	4,813	2,711	5,653
50		1.00	2,242	1,720	2,808	1,340	3,299
51		1.00	1,810	1,285	2,366	1,001	2,779
52		1.00	1,452	911	2,009	710	2,360
53		0.99	2,011	1,492	2,572	1,162	3,022
54		1.00	2,638	1,938	3,360	1,509	3,947
55		1.00	4,970	4,505	5,457	3,509	6,410
56		1.00	4,048	3,437	4,720	2,677	5,544
57		1.00	3,624	2,999	4,337	2,336	5,094
58		1.00	2,097	1,517	2,697	1,182	3,168
59		0.55	3,809	3,149	4,583	2,453	5,383
60		1.00	3,353	2,610	4,154	2,033	4,879
61		1.00	2,905	2,299	3,550	1,791	4,170
62		1.00	2,325	1,730	2,928	1,348	3,439
63		1.00	4,837	4,216	5,394	3,284	6,336
64		1.00	3,973	3,249	4,708	2,531	5,530
65	R1b	1.00	20,912	19,361	22,491	15,081	26,418
66	R1b1'13	1.00	15,802	14,439	17,305	11,247	20,326
67	R1b1'11	1.00	6,641	5,977	7,360	4,656	8,645
68	R1b1'19	1.00	5,465	5,062	5,868	3,943	6,892
69	R1b1'5	0.99	5,323	4,944	5,677	3,851	6,668
70		0.17	5,264	4,886	5,609	3,806	6,588
71		0.24	5,181	4,792	5,532	3,732	6,498
72	R1b3	1.00	5,018	4,606	5,402	3,588	6,345
73		0.32	4,885	4,423	5,304	3,445	6,230
74		0.26	4,799	4,280	5,266	3,334	6,185
75		1.00	538	194	858	151	1,007
76		0.92	4,762	4,265	5,226	3,322	6,138
77	R1b1	0.99	4,973	4,528	5,389	3,527	6,329
78		0.37	4,847	4,353	5,304	3,391	6,230

79		1.00	4,758	4,233	5,215	3,297	6,125
80	R1b11	1.00	5,359	4,819	5,893	3,754	6,923
81		0.40	5,218	4,663	5,734	3,632	6,735
82		1.00	4,694	3,953	5,293	3,079	6,217
83		1.00	2,379	1,620	3,213	1,262	3,775
84	R2a	1.00	8,596	7,534	9,680	5,869	11,370
85		0.38	8,465	7,408	9,504	5,770	11,163
86		1.00	5,177	4,447	5,928	3,464	6,963
87		1.00	2,465	1,703	3,290	1,327	3,864
88	Q	1.00	28,894	27,324	30,430	21,284	35,743
89	Q1	1.00	22,806	21,325	24,372	16,611	28,628
90		1.00	17,445	16,252	18,683	12,660	21,945
91	Q1a-M3	1.00	15,444	14,390	16,480	11,209	19,358
92	Q1a-M848	1.00	15,035	14,008	16,050	10,911	18,853
93		0.14	14,889	13,887	15,931	10,817	18,713
94		0.11	14,771	13,683	15,804	10,659	18,563
95		0.17	14,674	13,540	15,748	10,547	18,498
96		1.00	1,825	1,252	2,471	975	2,902
97		0.41	1,647	1,083	2,271	843	2,668
98		1.00	423	117	716	91	842
99		0.87	14,632	13,525	15,721	10,535	18,466
100		1.00	899	485	1,494	378	1,755
101		1.00	12,474	11,209	13,695	8,731	16,086
102	Q1c	1.00	8,506	7,336	9,699	5,715	11,392
103		1.00	5,068	4,328	5,793	3,371	6,805
104		1.00	2,764	2,037	3,502	1,587	4,113
105	Q1d-B285	1.00	9,882	8,443	11,418	6,577	13,411
106	Q2	1.00	26,481	24,877	28,126	19,378	33,037
107	Q2b'c	1.00	16,781	15,120	18,453	11,778	21,675
108	Q2b-B280	1.00	958	597	1,441	465	1,693
109		1.00	636	356	970	278	1,139
110		1.00	152	15	378	11	444
111		1.00	651	384	968	299	1,138
112		0.44	537	259	807	202	948
113	MS	1.00	47,932	46,495	49,258	36,217	57,859
114	S	1.00	47,628	46,123	49,024	35,928	57,584
115		1.00	1,102	601	1,718	468	2,018
116	S1'2	0.52	47,429	45,838	48,873	35,706	57,406
117	M1c	1.00	5,443	4,633	6,600	3,609	7,752
118		1.00	1,949	1,325	2,616	1,032	3,073
119	NO	1.00	41,900	40,175	43,591	31,294	51,202
120	N	1.00	19,153	17,559	20,792	13,677	24,422
121	N1'3	1.00	17,609	16,111	19,157	12,549	22,502

122	N3	1.00	11,659	10,440	12,936	8,133	15,195
123	N3a	1.00	8,374	7,468	9,310	5,817	10,936
124	N3a2'5	1.00	7,147	6,369	7,951	4,961	9,340
125	N3a3'5	1.00	5,228	4,790	5,645	3,731	6,631
126		0.33	5,119	4,691	5,538	3,654	6,505
127	N3a5	1.00	4,882	4,419	5,348	3,442	6,282
128		1.00	2,739	2,117	3,392	1,649	3,985
129		1.00	929	606	1,356	472	1,593
130		1.00	699	451	1,006	352	1,181
131		0.49	582	329	864	256	1,014
132		1.00	503	176	796	137	935
133		1.00	2,687	2,173	3,245	1,692	3,811
134		1.00	2,226	1,774	2,709	1,382	3,182
135		0.28	2,130	1,681	2,593	1,309	3,045
136		1.00	1,836	1,383	2,322	1,077	2,728
137		1.00	719	433	1,087	337	1,277
138	N3a4	1.00	4,112	3,396	4,846	2,645	5,692
139		1.00	3,167	2,416	3,973	1,882	4,667
140		1.00	1,582	959	2,251	747	2,644
141	N3a3	1.00	4,931	4,455	5,383	3,470	6,322
142		1.00	4,291	3,707	4,875	2,887	5,726
143		1.00	3,049	2,456	3,665	1,913	4,305
144		1.00	2,774	2,226	3,347	1,734	3,931
145		0.44	2,617	2,076	3,204	1,617	3,763
146		1.00	2,126	1,536	2,734	1,197	3,211
147		1.00	2,480	1,947	3,036	1,516	3,566
148		1.00	1,419	819	2,021	638	2,374
149		1.00	2,222	1,710	2,776	1,332	3,261
150	N3a2	1.00	4,739	3,796	5,475	2,957	6,431
151		1.00	1,589	1,054	2,197	821	2,580
152		1.00	828	525	1,218	409	1,430
153		1.00	627	375	945	292	1,110
154	N3a1	1.00	4,719	3,774	5,444	2,940	6,395
155		1.00	2,237	1,599	2,921	1,245	3,431
156		1.00	1,461	919	2,044	716	2,400
157	N2a1	1.00	5,061	4,488	5,604	3,496	6,582
158	N2a1a	1.00	3,615	3,010	4,279	2,345	5,027
159		0.33	3,488	2,873	4,134	2,238	4,855
160		1.00	2,524	1,924	3,129	1,499	3,675
161		1.00	1,837	1,307	2,402	1,018	2,821
162		1.00	760	447	1,191	348	1,399
163		1.00	1,180	637	1,770	496	2,079
164		1.00	1,715	1,210	2,259	942	2,653

165		1.00	1,467	1,006	1,990	784	2,337
166		0.36	4,923	4,359	5,488	3,396	6,446
167		1.00	3,023	2,299	3,790	1,791	4,452
168	O	1.00	34,042	32,387	35,708	25,228	41,942
169	O1'2	1.00	33,103	31,401	34,781	24,460	40,854
170	O2a	1.00	10,789	9,502	12,211	7,402	14,343
171	O2a2	1.00	5,965	5,312	7,013	4,138	8,238
172		0.67	5,747	5,155	6,780	4,015	7,964
173		1.00	5,322	4,682	6,309	3,647	7,410
174		0.68	5,588	4,961	6,650	3,865	7,811
175		1.00	5,349	4,707	6,316	3,667	7,419
176		1.00	1,588	1,004	2,221	782	2,609
177	O2a1	1.00	5,735	4,869	7,032	3,793	8,259
178	O1	1.00	16,538	15,091	18,003	11,755	21,147
179	O1c-B398	1.00	5,590	4,917	6,452	3,830	7,579
180		1.00	4,868	4,138	5,497	3,223	6,456
181		1.00	4,551	3,777	5,191	2,942	6,097
182		0.35	16,392	14,984	17,890	11,672	21,014
183	O3	1.00	24,824	23,125	26,538	18,013	31,172
184	O3a'i	1.00	20,773	19,190	22,365	14,948	26,270
185	O3a'b	1.00	18,203	16,626	19,783	12,951	23,237
186	O3a1	1.00	7,455	6,514	8,500	5,074	9,984
187		1.00	5,491	4,923	6,164	3,834	7,240
188		0.32	5,390	4,835	6,067	3,767	7,127
189		1.00	4,645	3,926	5,268	3,058	6,188
190	O3i-B451	1.00	5,511	4,667	6,803	3,636	7,991
191	LT	1.00	45,610	43,844	47,299	34,152	55,558
192	L1b-M349	1.00	7,545	5,926	9,120	4,616	10,712
193	IJ	1.00	45,439	43,735	47,100	34,067	55,324
194	J	1.00	33,417	31,738	35,176	24,722	41,318
195	J1	1.00	18,734	17,249	20,273	13,436	23,812
196		0.92	18,506	17,049	20,057	13,281	23,559
197	J1b	1.00	7,348	6,417	8,354	4,999	9,812
198		1.00	5,618	5,084	6,269	3,960	7,364
199		1.00	5,251	4,789	5,725	3,731	6,725
200		1.00	4,819	4,282	5,322	3,335	6,251
201		1.00	4,082	3,452	4,745	2,689	5,574
202		1.00	3,717	3,043	4,437	2,370	5,211
203		1.00	3,579	2,862	4,341	2,230	5,098
204		0.46	5,097	4,599	5,579	3,582	6,553
205		1.00	4,398	3,598	5,055	2,802	5,937
206	J1a	1.00	5,558	5,011	6,285	3,903	7,383
207		0.93	5,368	4,815	5,998	3,750	7,045

208		1.00	5,117	4,566	5,725	3,556	6,724
209	J2	1.00	30,261	28,570	32,006	22,254	37,594
210	J2a	1.00	19,494	18,067	20,953	14,073	24,611
211		1.00	17,090	15,901	18,365	12,386	21,571
212		1.00	16,728	15,482	17,962	12,060	21,098
213		1.00	9,315	8,141	10,490	6,341	12,322
214		1.00	8,411	7,251	9,557	5,648	11,226
215		1.00	15,235	13,979	16,496	10,889	19,376
216		1.00	13,229	11,854	14,650	9,234	17,208
217	J2b	1.00	16,315	14,700	18,041	11,451	21,191
218		1.00	4,991	4,102	5,775	3,195	6,783
219	I	1.00	29,435	27,460	31,383	21,390	36,863
220	I2'3	1.00	24,240	22,287	26,249	17,361	30,832
221	I2a-L621	1.00	2,549	2,062	3,088	1,606	3,628
222		0.19	2,403	1,933	2,902	1,506	3,409
223		0.09	2,323	1,863	2,832	1,451	3,327
224		0.13	2,274	1,780	2,806	1,387	3,296
225		1.00	1,174	663	1,698	516	1,994
226		1.00	2,031	1,530	2,553	1,192	2,999
227		1.00	802	458	1,257	357	1,476
228	I1a'f	1.00	5,542	5,045	6,138	3,930	7,210
229		0.43	5,401	4,887	5,978	3,807	7,021
230		1.00	4,672	3,980	5,255	3,100	6,173
231		1.00	3,210	2,468	3,988	1,922	4,685
232		1.00	4,950	4,395	5,479	3,424	6,436
233		1.00	4,621	3,959	5,178	3,084	6,082
234	H	1.00	48,486	46,991	49,972	36,603	58,698
235	H1'2	1.00	43,837	42,065	45,598	32,767	53,559
236	H1	1.00	40,662	38,837	42,519	30,252	49,943
237	H1a	1.00	16,870	15,111	18,718	11,770	21,986
238		1.00	6,605	5,654	7,630	4,404	8,962
239		1.00	5,229	4,499	6,024	3,504	7,076
240		1.00	5,596	4,826	6,695	3,759	7,864
241	H1b	1.00	31,899	29,934	33,789	23,317	39,689
242		1.00	29,950	27,964	31,895	21,783	37,464
243	G2a	1.00	19,405	17,781	21,079	13,850	24,759
244	G2a1	1.00	5,993	5,111	7,073	3,981	8,308
245		1.00	4,838	4,033	5,549	3,142	6,518
246		1.00	3,258	2,544	3,992	1,982	4,688
247		1.00	677	394	1,042	307	1,224
248		1.00	18,807	17,175	20,443	13,379	24,012
249	G2a2	1.00	11,357	9,837	12,901	7,663	15,153
250	C	1.00	50,865	49,191	52,699	38,317	61,900

251	C3	1.00	35,383	33,305	37,537	25,943	44,092
252	C3c'h	1.00	15,959	14,785	17,116	11,517	20,105
253		0.59	15,680	14,555	16,839	11,337	19,779
254		0.51	15,557	14,443	16,732	11,250	19,654
255	C3c	1.00	12,131	10,916	13,363	8,503	15,697
256		1.00	2,804	2,228	3,431	1,735	4,030
257		1.00	1,674	1,190	2,205	927	2,590
258		1.00	803	528	1,148	411	1,349
259		1.00	598	366	873	285	1,026
260		1.00	563	196	915	153	1,075
261		1.00	2,562	2,003	3,161	1,560	3,713
262		1.00	1,792	1,255	2,376	978	2,791
263		1.00	4,992	4,188	5,732	3,262	6,732
264		1.00	3,812	3,005	4,654	2,341	5,467
265		1.00	594	285	939	222	1,103
266	C3g	1.00	14,741	13,456	15,972	10,481	18,761
267	C3f1	1.00	9,373	7,959	10,840	6,199	12,733
268		1.00	1,058	727	1,458	567	1,713
269		1.00	866	618	1,176	481	1,382
270		0.14	799	580	1,094	451	1,285
271		0.27	629	413	878	322	1,032
272		0.20	540	275	797	214	936
273		0.17	688	462	975	360	1,146
274		1.00	446	188	684	146	803
275		0.56	870	543	1,269	423	1,491
276	C2'7	1.00	49,346	47,771	51,094	37,211	60,016
277	C5'9	0.97	49,089	47,542	50,847	37,033	59,725
278	C5'7	1.00	48,703	47,175	50,457	36,747	59,267
279	C7	0.67	48,463	46,912	50,193	36,542	58,956
280	C7b1	1.00	5,121	4,446	5,737	3,463	6,739
281		0.90	4,858	4,161	5,481	3,241	6,438
282		1.00	823	460	1,355	358	1,592
283	C2	1.00	23,497	21,433	25,639	16,695	30,116
284	C2a	1.00	12,609	10,893	14,446	8,485	16,968
285		1.00	831	507	1,270	395	1,492
286		1.00	583	317	877	247	1,030
287	DE	1.00	68,555	66,457	70,676	51,766	83,017
288	E	1.00	54,140	51,590	56,614	40,186	66,499
289	E1'2	1.00	45,938	43,496	48,468	33,881	56,931
290		1.00	26,492	24,775	28,352	19,299	33,303
291	E2a	1.00	13,823	12,334	15,355	9,607	18,036
292		1.00	12,839	11,414	14,391	8,891	16,904
293		1.00	4,833	3,963	5,452	3,087	6,404

294		0.39	4,693	3,799	5,306	2,959	6,233
295		1.00	3,484	2,644	4,350	2,059	5,110
296		0.98	4,450	3,520	5,130	2,742	6,025
297		1.00	144	3	492	2	578
298	E2b	1.00	21,111	19,560	22,668	15,236	26,626
299		1.00	18,895	17,388	20,383	13,544	23,942
300		1.00	5,021	4,158	5,835	3,239	6,853
301	E1a	1.00	10,811	9,523	12,138	7,418	14,258
302		1.00	5,247	4,728	5,731	3,683	6,731
303		1.00	4,824	4,278	5,319	3,332	6,248
304		0.35	4,724	4,144	5,227	3,228	6,140
305		1.00	3,102	2,393	3,805	1,864	4,469
306		0.48	5,063	4,529	5,583	3,528	6,558
307		1.00	6,594	5,502	7,619	4,286	8,949
308		1.00	4,994	4,223	5,700	3,289	6,696
309		1.00	4,113	3,371	4,906	2,626	5,762
310		1.00	2,925	2,227	3,661	1,735	4,300
311	D	1.00	49,866	47,470	52,529	36,977	61,701
312	D1	1.00	20,021	17,867	22,226	13,917	26,107
313	B2'5	1.00	64,034	60,970	67,084	47,492	78,798
314	B4'5	1.00	45,979	43,457	48,457	33,851	56,918
315	B4	1.00	43,782	41,279	46,276	32,154	54,356
316		1.00	32,903	30,668	35,150	23,889	41,287
317		1.00	28,094	25,861	30,302	20,144	35,593
318		1.00	599	285	964	222	1,132
319		1.00	140	4	479	3	562
320	B5	1.00	41,341	38,704	43,887	30,148	51,550
321		1.00	143,437	138,789	148,104	108,109	173,964
322		1.00	657	334	1,080	261	1,269

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