

**Supplementary Table S7.** Diversity of *NAT* genes in human populations and results of Hardy-Weinberg equilibrium tests.

ID	Population	n <sup>1</sup>	k <sup>1</sup>	S <sup>1</sup>	h <sup>1</sup>	$\pi$ (x 10 <sup>-3</sup> ) <sup>1</sup>	Hardy-Weinberg equilibrium test <sup>2</sup>	
							H <sub>0</sub>	P-value HW
<b><i>NAT1</i></b>								
<i>Sub-Saharan Africa</i>								
2	Yoruba in Ibadan, Nigeria <sup>3</sup>	88	3	3	0.034	0.063	0.034	>0.999
4	Luhya in Webuye, Kenya <sup>3</sup>	97	4	5	0.061	0.147	0.062	>0.999
5	Maasai of Tanzania <sup>4</sup>	16	3	4	0.123	0.277	0.125	>0.999
6	Turu of Tanzania <sup>4</sup>	16	3	3	0.123	0.208	0.125	>0.999
7	Burunge of Tanzania <sup>4</sup>	17	2	1	0.059	0.065	0.059	>0.999
8	Hadza of Tanzania <sup>4</sup>	16	3	2	0.280	0.551	0.188	0.305
9	Sandawe of Tanzania <sup>4</sup>	19	5	6	0.292	0.567	0.316	>0.999
10	Biaka Pygmy of C.A.R. (CEPH) <sup>4</sup>	15	3	2	0.131	0.148	0.133	>0.999
<i>East Asia</i>								
11	Han Chinese in Beijing, China <sup>3</sup>	97	6	6	0.051	0.080	0.052	>0.999
12	Southern Han Chinese <sup>3</sup>	100	2	1	0.010	0.011	0.010	>0.999
13	Japanese in Tokyo, Japan <sup>3</sup>	89	2	3	0.022	0.074	0.022	>0.999
14	Cambodian (CEPH) <sup>4</sup>	20	1	0	0.000	0.000	n.a. <sup>6</sup>	n.a. <sup>6</sup>
<i>Europe</i>								
15	Toscani in Italia <sup>3</sup>	98	5	6	0.127	0.318	0.122	0.116
16	Utah Residents (CEPH) with N&W European Ancestry <sup>3</sup>	85	5	6	0.124	0.292	0.129	>0.999
17	British in England and Scotland <sup>3</sup>	89	5	6	0.139	0.349	0.146	>0.999
18	Finnish in Finland <sup>3</sup>	93	5	6	0.104	0.141	0.108	>0.999
<i>America</i>								
19	Mexican Ancestry from Los Angeles USA <sup>3</sup>	66	3	4	0.045	0.117	0.045	>0.999
20	Puerto Ricans from Puerto Rico <sup>3</sup>	55	3	4	0.036	0.081	0.036	>0.999
21	Colombians from Medellin, Colombia <sup>3</sup>	60	3	4	0.081	0.200	0.083	>0.999
22	Americans of African Ancestry in SW USA <sup>3</sup>	61	4	3	0.049	0.054	0.049	>0.999
World average for <i>NAT1</i>		59.85	3.50	3.75	0.095	0.187		
(s.d.) <sup>7</sup>		(34.78)	(1.32)	(1.92)	(0.079)	(0.162)		

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**NAT2***Sub-Saharan Africa*

2	Yoruba in Ibadan, Nigeria <sup>3</sup>	88	20	16	0.890	2.200	0.864	0.304
3	Mandenka of Senegal <sup>5</sup>	97	16	12	0.837	2.316	0.814	0.526
4	Luhya in Webuye, Kenya <sup>3</sup>	97	19	15	0.829	2.451	0.887	0.444
6	Turu of Tanzania <sup>4</sup>	15	13	11	0.881	2.435	0.933	0.965
7	Burunge of Tanzania <sup>4</sup>	17	10	10	0.831	2.582	0.882	0.284
9	Sandawe of Tanzania <sup>4</sup>	18	10	9	0.824	2.308	0.722	0.263
10	Biaka Pygmy of C.A.R. (CEPH) <sup>4</sup>	15	11	10	0.821	1.563	0.867	0.993

*East Asia*

11	Han Chinese in Beijing, China <sup>3</sup>	97	6	7	0.576	1.087	0.588	0.763
12	Southern Han Chinese <sup>3</sup>	100	7	7	0.652	1.275	0.660	0.197
13	Japanese in Tokyo, Japan <sup>3</sup>	89	5	7	0.538	1.030	0.461	0.250

*Europe*

15	Toscani in Italia <sup>3</sup>	98	9	8	0.707	2.172	0.643	0.058
16	Utah Residents (CEPH) with N&W European Ancestry <sup>3</sup>	85	8	8	0.723	2.156	0.659	0.471
17	British in England and Scotland <sup>3</sup>	89	7	7	0.728	2.218	0.640	<u>0.042 (0.720)</u>
18	Finnish in Finland <sup>3</sup>	93	7	7	0.725	2.182	0.753	0.920

*America*

19	Mexican Ancestry from Los Angeles USA <sup>3</sup>	66	10	10	0.762	2.104	0.742	0.489
20	Puerto Ricans from Puerto Rico <sup>3</sup>	55	10	9	0.785	2.234	0.727	0.342
21	Colombians from Medellin, Colombia <sup>3</sup>	60	8	8	0.725	2.063	0.750	0.689
22	Americans of African Ancestry in SW USA <sup>3</sup>	61	17	15	0.861	2.357	0.885	0.654

World average for NAT2

68.89

10.72

9.78

0.761

2.041

(s.d.)<sup>7</sup>

(32.21)

(4.50)

(2.96)

(0.100)

(0.470)

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**NATP***Sub-Saharan Africa*

1	Dinka of Soudan <sup>4</sup>	15	11	7	0.818	1.528	0.867	0.904
2	Yoruba in Ibadan, Nigeria <sup>3</sup>	88	19	14	0.846	2.540	0.841	0.220
4	Luhya in Webuye, Kenya <sup>3</sup>	97	19	14	0.822	2.416	0.887	0.642
6	Turu of Tanzania <sup>4</sup>	15	7	7	0.816	1.773	0.533	<u>0.011 (0.211)</u>
7	Burunge of Tanzania <sup>4</sup>	18	7	6	0.781	1.286	0.778	0.792

9	Sandawe of Tanzania <sup>4</sup>	18	10	7	0.676	1.331	0.833	>0.999
10	Biaka Pygmy of C.A.R. (CEPH) <sup>4</sup>	15	10	7	0.841	1.565	0.800	0.268
<i>East Asia</i>								
11	Han Chinese in Beijing, China <sup>3</sup>	97	8	9	0.652	1.862	0.732	0.374
12	Southern Han Chinese <sup>3</sup>	100	9	10	0.665	1.914	0.630	0.216
13	Japanese in Tokyo, Japan <sup>3</sup>	89	10	9	0.685	2.020	0.663	0.579
<i>Europe</i>								
15	Toscans in Italia <sup>3</sup>	98	10	8	0.738	1.601	0.663	0.540
16	Utah Residents (CEPH) with N&W European Ancestry <sup>3</sup>	85	10	10	0.735	1.740	0.706	0.413
17	British in England and Scotland <sup>3</sup>	89	9	8	0.707	1.590	0.708	0.165
18	Finnish in Finland <sup>3</sup>	93	10	9	0.752	1.839	0.806	0.665
<i>America</i>								
19	Mexican Ancestry from Los Angeles USA <sup>3</sup>	66	11	11	0.747	1.737	0.773	0.874
20	Puerto Ricans from Puerto Rico <sup>3</sup>	55	10	10	0.746	1.645	0.727	0.083
21	Colombians from Medellin, Colombia <sup>3</sup>	60	9	8	0.768	1.862	0.783	0.620
22	Americans of African Ancestry in SW USA <sup>3</sup>	61	12	12	0.800	2.214	0.852	0.814
World average for <i>NATP</i>		64.39	10.61	9.22	0.755	1.804		
(s.d.) <sup>7</sup>		(33.68)	(3.31)	(2.34)	(0.061)	(0.334)		

<sup>1</sup> Sample size ( $n$ ) ; Number of haplotypes ( $k$ ) ; Number of segregating sites ( $S$ ) ; Expected heterozygosity, equivalent to Nei's gene diversity ( $h$ ) ; Nucleotide diversity ( $\pi$ )  $\times 10^{-3}$ .

<sup>2</sup> Test for departure from Hardy-Weinberg equilibrium;  $H_o$  : observed heterozygosity. Significant departures ( $P$ -value  $< 0.05$ ) from equilibrium are underlined. No significant departure remained after Holm's correction for multiple testing ( $P$ -values in brackets).

<sup>3</sup> The Genomes Project Consortium (2012). <sup>4</sup> Mortensen et al. (2011). <sup>5</sup> Sabbagh et al. (2008). <sup>6</sup> Not applicable (n.a.). <sup>7</sup> Standard deviation (s.d.).

## References

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