

FOR THE RECORD

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French Allele Frequencies and Haplotypes of Nine Y-specific STRs

POPULATION: Eastern French (Strasbourg); ($n = 100$).

KEYWORDS: forensic science, DNA typing, population genetics, French population, Y-STRs, DYS19, DYS389-I, DYS389-II, DYS390, DYS391, DYS392, DYS393, DYS385, YCAII

Blood samples or buccal swabs were collected from 100 Caucasian males living in Strasbourg, after obtaining their informed consent. After DNA extraction using the Cleanmix kit (Talent), all males were analyzed at nine STR loci. The six Y-STR loci DYS19, DYS389-II, DYS390, DYS391, DYS393 and, DYS385 were coamplified in a multiplex reaction using the Y-Plex6™ kit according to the manufacturers' recommendations (ReliaGene Technologies Inc.). The three others (DYS389-I, DYS392, and YCAII) were amplified by singleplex PCR. Primer sequences were those described by de Knijff et al. (1), except for the loci DYS389-I which was amplified using the primer sequence described by Schultes et al. (2). Amplification products were analyzed by capillary electrophoresis on an ABI Prism 3100 Genetic analyzer (Applied Biosystems). Fragment sizes were determined automatically using the GeneMapper software and typed by comparison with an allelic ladder (provided in the kit or obtained by

the mixture of previously sequenced samples for the most common alleles). The allele nomenclature was the one recommended by the International Society of Forensic Genetics (3). Data have been contributed to the YHRD and can be searched at www.ystr.org/europe.

References

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TABLE 1—Allele frequencies and gene diversities ($1-\sum p_i^2$, π allele frequencies) at nine Y-STR loci.

Locus	Alleles	Frequency	Diversity	Locus	Allele	Frequency	Diversity
DYS19	13	0.08	0.5640	DYS392	11	0.61	0.5392
	14	0.60			12	0.01	
	15	0.26			11	0.21	
	16	0.04			12	0.14	
	17	0.02			13	0.63	
DYS389-I	12	0.19	0.5158	DYS393	14	0.01	0.3414
	13	0.65			15	0.01	
	14	0.16			12	0.08	
DYS389-II	28	0.14	0.6174	DYS385	13	0.80	0.8264
	29	0.55			14	0.11	
	30	0.24			16	0.01	
	31	0.05			10-13	0.02	
DYS390	32	0.02	0.6558	10-14	0.02		
	21	0.02		10-15	0.01		
	22	0.08		11-11	0.02		
	23	0.24		11-13	0.04		
	24	0.51		11-14	0.37		
	25	0.14		11-15	0.12		
YCAII	0-3	0.01	0.6290	11-16	0.01		
	1-7	0.01		11-17	0.01		
	3-3	0.03		12-13	0.02		
	3-4	0.03		12-14	0.11		
	3-5	0.11		12-15	0.03		
	3-6	0.07		12-16	0.02		
	3-7	0.59		13-14	0.05		
	3-8	0.03		13-16	0.01		
	3-9	0.01		13-17	0.01		
	4-4	0.04		14-14	0.04		
	4-5	0.01		14-15	0.01		
	4-7	0.03		14-16	0.01		
	4-8	0.01		14-17.2	0.01		
	5-5	0.01		15-15	0.01		
	6-6	0.01		15-16	0.01		
	DYS391	8		0.01	0.5172		15-17
9		0.04	16-16	0.02			
10		0.33	16-18	0.01			

TABLE 2—Y-STR haplotypes of the Strasbourg population sample (n = 100). N: number of subjects.

Haplotype	DYS19	DYS389I	DYS389II	DYS390	DYS391	DYS392	DYS393	DYS385	YCAII	N
1	14	13	29	24	11	13	14	11-14	0-3	1
2	14	12	28	24	11	13	13	11-14	3-8	1
3	14	12	28	24	11	13	14	11-14	3-7	1
4	14	13	29	22	11	13	13	11-14	3-7	1
5	14	13	29	24	11	13	13	11-14	3-7	2
6	14	13	29	24	10	13	13	11-15	3-7	1
7	14	13	29	24	10	13	13	10-13	3-7	1
8	15	13	29	24	11	13	13	12-14	3-7	1
9	15	13	29	24	11	13	13	11-14	3-7	2
10	16	13	29	23	11	13	13	11-15	3-7	1
11	14	13	29	25	11	13	14	12-15	3-7	1
12	14	13	29	25	10	13	13	11-14	3-7	2
13	15	14	31	23	10	12	14	16-16	3-5	1
14	15	12	28	25	10	11	12	14-17.2	3-4	1
15	14	13	29	24	11	13	13	12-15	3-7	1
16	14	13	29	24	11	12	13	10-13	3-7	1
17	14	14	30	23	11	13	13	11-14	3-7	1
18	15	14	32	23	11	12	16	14-15	3-5	1
19	15	14	32	22	10	12	12	15-17	3-5	1
20	14	14	30	25	10	13	13	11-14	3-7	1
21	14	13	29	23	10	13	13	10-14	3-3	1
22	16	13	30	24	11	11	13	11-15	5-5	1
23	14	14	30	23	11	13	14	11-15	3-7	1
24	15	13	31	21	11	11	13	16-16	3-5	1
25	13	14	30	24	9	12	13	13-14	3-6	1

TABLE 2—Continued.

Haplotype	DYS19	DYS389I	DYS389II	DYS390	DYS391	DYS392	DYS393	DYS385	YCAII	N
26	14	14	30	24	11	13	13	12-13	3-3	1
27	15	12	30	22	10	11	13	12-14	3-4	1
28	13	14	30	24	9	11	13	13-14	3-6	1
29	14	13	29	24	10	13	13	11-11	3-7	1
30	15	12	28	24	11	11	12	14-16	3-4	1
31	15	13	29	24	10	13	13	12-14	3-7	1
32	15	12	29	22	11	11	13	13-14	3-5	1
33	13	13	30	25	11	12	12	11-14	3-7	1
34	14	13	29	23	11	13	13	10-14	3-7	1
35	15	13	28	24	11	13	13	11-14	3-7	1
36	14	13	28	24	10	13	13	12-14	3-7	1
37	13	13	29	24	12	12	13	12-14	3-7	1
38	14	13	29	24	11	12	13	11-15	3-7	1
39	14	14	30	24	10	12	13	11-14	3-7	1
40	14	13	29	25	11	12	13	12-14	4-7	1
41	17	12	29	24	11	11	13	15-15	4-5	1
42	15	13	29	25	10	11	13	12-13	3-8	1
43	14	13	30	24	11	13	12	11-15	3-7	1
44	15	13	29	23	11	11	14	13-14	4-4	1
45	14	13	29	24	11	13	14	11-16	3-7	1
46	15	12	29	23	11	11	13	12-14	3-5	1
47	15	13	29	23	11	12	12	13-17	3-6	1
48	14	12	28	23	11	13	13	11-14	3-5	1
49	14	13	29	24	10	11	13	12-16	3-6	1
50	13	13	30	23	9	11	13	12-15	3-6	1
51	14	14	30	24	11	13	13	12-16	3-7	1
52	14	12	29	22	10	11	14	14-14	4-4	1
53	15	13	29	24	11	13	13	11-14	3-7	1
54	14	12	28	23	10	13	13	11-13	3-7	1
55	15	13	29	24	11	13	13	11-15	3-7	1
56	14	13	29	24	11	12	13	11-14	3-6	1
57	15	13	29	25	10	11	12	11-15	3-7	1
58	14	13	29	23	11	13	13	11-14	3-7	2
59	14	13	29	24	11	13	13	11-14	4-8	1
60	14	13	29	24	11	13	13	11-15	3-7	1
61	13	13	30	24	10	11	13	16-18	3-5	1
62	14	13	30	25	11	13	13	12-14	3-7	1
63	13	13	29	22	8	11	13	12-14	6-6	1
64	14	13	29	26	11	13	13	11-11	3-7	1
65	14	14	30	24	10	13	13	11-14	4-7	1
66	14	13	29	25	11	13	13	11-14	3-7	1
67	13	12	29	22	10	11	13	14-14	4-4	1
68	14	12	28	23	10	11	13	13-14	3-5	1
69	15	13	31	25	10	11	14	11-14	1-7	1
70	15	13	29	24	10	13	12	11-14	3-7	1
71	14	13	29	24	11	13	13	10-15	3-7	1
72	17	12	28	25	11	11	13	13-16	3-3	1
73	14	12	28	24	11	13	13	11-14	3-7	1
74	14	13	29	24	10	13	13	11-13	3-7	1
75	15	12	29	22	10	11	14	14-14	4-4	1
76	14	13	29	23	11	13	13	11-14	4-7	1
77	14	13	29	24	11	13	13	11-15	3-6	1
78	14	13	31	24	9	13	13	11-14	3-7	1
79	14	13	29	23	10	12	13	11-13	3-7	1
80	16	13	30	23	10	12	14	15-16	3-5	1
81	16	13	31	25	10	11	13	11-15	3-7	1
82	14	13	30	21	11	13	13	11-14	3-7	1
83	14	14	30	24	11	13	13	11-17	3-7	1
84	14	13	29	23	11	14	13	12-14	3-7	1
85	14	13	29	23	11	13	13	11-14	3-8	1
86	15	14	30	24	11	13	13	11-14	3-7	2
87	14	12	28	23	10	11	13	14-14	3-5	1
88	14	14	30	24	11	13	13	11-14	3-7	1
89	14	13	30	24	10	13	13	11-14	3-7	2
90	14	13	29	24	11	13	13	12-14	3-29	1
91	15	12	28	24	11	15	13	11-13	3-7	1
92	14	13	29	23	11	13	13	11-14	3-7	2
93	14	12	28	24	11	13	13	11-15	3-7	1