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FOR THE RECORD

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Y Chromosome STR Haplotypes and Allele Frequencies in Illinois Caucasian, African American, and Hispanic Males

POPULATION: Population: Illinois Caucasian ($n = 117$), Illinois African American ($n = 218$), and Illinois Hispanic ($n = 68$).

KEWORDS: forensic science, DNA typing, short tandem repeats (STR), population genetics, DYS392, DYS390, DYS385a/b, DYS393, DYS389I, DYS391, DYS389II, DYS19, DYS439 and DYS438, United States of America Caucasian, African American and Hispanic populations

Bloodstain samples were obtained from 403 Illinois males self-described in the following groups: 117 Caucasian, 218 African American, and 68 Hispanic. DNA was extracted from these samples using a standard SDS/proteinase K extraction buffer. Each sample was isolated using Microcon™ 100 filters (Millipore Corporation, Bedford, MA) following phenol–chloroform–isoamyl alcohol treatment of the DNA extract and quantitated using either Quantiblot™ (Applied Biosystems, Foster City, CA) or Quantifiler™ Human (Applied Biosystems) DNA assays. Approximately 1 ng of DNA was targeted for amplification of the Y-STR loci DYS392, DYS390, DYS385a/b, DYS393, DYS389I, DYS391, DYS389II, DYS19, DYS439, and DYS438 using the Y-PLEX™ 12 PCR Amplification Kit (1) according to manufacturer's recommendations (Reliagene Technologies Inc., New Orleans, LA). PCR products generated were analyzed on the ABI PRISM™ 310 Genetic Analyzer. Haplotypes were defined using Genescan™ and Genotyper™ software (Applied Biosystems) and the Y-12 Typer310*v*1.0 macro (Reliagene Technologies Inc.).

Allele frequencies, gene diversity, and haplotype diversity values calculated (2) for each population are presented in Tables 1–3. Diversity values correspond to expected heterozygosity values for

TABLE 1—*Allele frequencies, gene diversity, and haplotype diversity at 10 Y-STR loci Illinois African American males (n = 218).*

Locus	Allele	Frequency	Diversity	Locus	Allele	Frequency	Diverstiy
DYS392	11	0.771	0.378	DYS389II	26	0.005	0.679
	12	0.032			27	0.023	
	13	0.165			28	0.092	
	14	0.032			29	0.206	
					30	0.349	
DYS390	20	0.014	0.657		31	0.238	
	21	0.541			32	0.064	
	22	0.119			33	0.018	
	23	0.087			34	0.005	
	24	0.156					
	25	0.083		DYS19	13	0.032	0.739
					14	0.251	
DYS385a/b	10	0.005	0.856		15	0.365	
	11	0.092			16	0.228	
	12	0.016			17	0.123	
	13	0.034					
	14	0.135		DYS439	10	0.018	0.612
	15	0.115			11	0.271	
	16	0.209			12	0.541	
	17	0.206			13	0.156	
	18	0.133			14	0.009	
	19	0.048			15	0.005	
	20	0.007					
				DYS438	8	0.018	0.562

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TABLE 1— *Continued.*

Locus	Allele	Frequency	Diversity	Locus	Allele	Frequency	Diverstiy
DYS393	10	0.005	0.586		9	0.037	
	11	0.005			10	0.106	
	12	0.037			11	0.619	
	13	0.587			12	0.211	
	14	0.229			13	0.009	
	15	0.133					
	16	0.005					
DYS389I	10	0.005	0.573				
	11	0.005					
	12	0.183					
	13	0.596					
	14	0.202					
	15	0.009					
DYS391	9	0.023	0.395				
	10	0.748					
	11	0.216					
	12	0.014		Haplotype diversity = 0.9993			

STR, short tandem repeats.

TABLE 2—*Allele frequencies, gene diversity, and haplotype diversity at 10 Y-STR loci Illinois Caucasian males (n = 117).*

Locus	Allele	Frequency	Diversity	Locus	Allele	Frequency	Diverstiy
DYS392	11	0.342	0.616	DYS389II	27	0.008	0.647
	12	0.043			28	0.085	
	13	0.513			29	0.530	
	14	0.085			30	0.248	
	15	0.017			31	0.085	
					32	0.043	
DYS390	21	0.026	0.721				
	22	0.120		DYS19	13	0.077	0.578
					14	0.598	
	23	0.231			15	0.239	
	24	0.436			16	0.077	
	25	0.162			17	0.008	
	26	0.026					
				DYS439	10	0.085	0.655
DYS385a/b	10	0.021	0.754		11	0.402	
	11	0.299			12	0.419	
	12	0.056			13	0.077	
	13	0.098			14	0.017	
	14	0.372					
	15	0.085		DYS438	7	0.008	0.593
	16	0.026			8	0.000	
	17	0.026			9	0.060	
	18	0.008			10	0.248	
	19	0.004			11	0.094	
	20	0.004			12	0.581	
DYS393	12	0.085	0.363		13	0.008	
	13	0.786					
	14	0.120					
	15	0.008					
DYS389I	11	0.008	0.518				
	12	0.171					
	13	0.658					
	14	0.154					
	15	0.008					
DYS391	9	0.026	0.542				
	10	0.547					
	11	0.402					
	12	0.026		Haplotype diversity = 0.9966			

STR, short tandem repeats.

TABLE 3—*Allele frequencies, gene diversity, and haplotype diversity at 10 Y-STR loci Illinois Hispanic males (n = 68).*

Locus	Allele	Frequency	Diversity	Locus	Allele	Frequency	Diverstiy
DYS392	11	0.426	0.624	DYS389II	28	0.176	0.715
	12	0.015			29	0.382	
	13	0.441			30	0.338	
	14	0.088			31	0.059	
	15	0.000			32	0.029	
	16	0.029			33	0.015	
DYS390	21	0.074	0.663	DYS19	13	0.304	0.702
	22	0.103			14	0.435	
	23	0.220			15	0.130	
	24	0.529			16	0.087	
	25	0.044			17	0.043	
	26	0.015					
	27	0.015		DYS439	10	0.059	0.676
					11	0.279	
DYS385a/b	11	0.206	0.864		12	0.470	
	12	0.051			13	0.176	
	13	0.096			14	0.015	
	14	0.213					
	15	0.132		DYS438	9	0.059	0.716
	16	0.081			10	0.279	
	17	0.081			11	0.279	
	18	0.110			12	0.368	
	19	0.022			13	0.015	
	20	0.007					
DYS393	12	0.132	0.449				
	13	0.720					
	14	0.147					
DYS389I	12	0.279	0.648				
	13	0.485					
	14	0.220					
	15	0.015					
DYS391	9	0.118	0.624				
	10	0.485					
	11	0.368					
	12	0.029		Haplotype diversity = 0.9996			

STR, short tandem repeats.

TABLE 4—*Illinois African American haplotype frequency distribution.*

	Y-STR haplotype										
	DYS392	DYS390	DYS385a/b	DYS393	DYS389I	DYS391	DYS389II	DYS19	DYS439	DYS438	*n*
11	20	17	18	15	13	10	30	16	12	11	
11	20	17	18	15	13	11	30	16	12	11	
11	20	15	19	15	13	10	30	17	13	11	
11	21	15	20	14	13	10	30	15	13	11	
11	21	16	17	13	13	10	31	15	12	11	3
11	21	16	20	14	13	10	27	17	13	11	
11	21	17	18	15	13	10	31	17	11	11	
11	21	16	17	14	12	10	30	17	11	10	
11	21	15	16	15	13	10	30	15	12	11	
11	21	15	17	14	14	10	32	16	13	11	
11	21	17	17	14	13	10	29	16	12	11	
11	21	16	16	14	13	10	31	17	11	11	
11	21	17	17	13	13	10	31	15	11	11	
11	21	17	17	13	14	10	31	17	12	11	
11	21	18	18	15	12	10	29	16	13	11	
11	21	18	19	15	13	10	30	16	13	11	
11	21	16	16	15	14	10	30	15	12	11	
11	21	16	18	14	13	10	30	15	12	11	
11	21	15	16	14	13	10	30	15	11	11	
11	21	16	17	14	12	11	29	15	12	11	
11	21	15	16	13	13	10	31	15	13	11	
11	21	17	18	14	13	10	30	16	11	11	2
11	21	16	19	13	13	10	30	17	12	11	
11	21	15	18	13	13	10	30	15	12	11	
11	21	17	18	14	12	10	29	16	13	11	
11	21	17	17	13	13	10	31	16	11	11	

TABLE 4— *Continued.*

	Y-STR haplotype										
	DYS392	DYS390	DYS385a/b	DYS393	DYS389I	DYS391	DYS389II	DYS19	DYS439	DYS438	*n*
11	21	17	17	14	13	10	30	16	12	11	2
11	21	16	19	15	13	10	30	17	12	11	
11	21	17	18	15	13	10	31	16	11	11	
11	21	18	18	13	13	10	29	17	12	11	
11	21	18	18	14	13	10	30	17	12	11	2
11	21	16	17	13	13	10	30	15	12	11	
11	21	17	18	14	13	10	31	16	12	11	
11	21	16	17	13	13	10	31	15	12	12	3
11	21	18	19	13	13	10	30	15	12	11	
11	21	16	17	13	13	11	31	15	11	11	2
11	21	16	16	13	13	11	30	15	12	11	
11	21	17	18	13	13	10	29	15	11	11	
11	21	16	18	13	13	10	31	15	12	11	
11	21	15	16	13	13	10	31	16	13	11	
11	21	17	17	13	13	10	30	14	12	11	
11	21	18	18	14	14	10	31	15	13	11	
11	21	16	16	12	13	10	30	15	12	11	
11	21	14	17	14	13	10	30	15	12	12	
11	21	18	19	15	13	10	30	17	13	11	
11	21	15	17	13	13	10	31	15	13	11	
11	21	18	18	13	13	10	30	16	12	11	
11	21	17	18	15	13	10	31	16	12	11	
11	21	14	18	14	14	10	31	15	12	11	
11	21	16	17	13	13	10	31	15	11	11	
11	21	16	17	14	13	10	31	16	12	12	
11	21	17	19	15	14	10	31	16	12	11	2
11	21	15	16	14	13	10	31	15	12	11	
11	21	17	17	13	13	10	30	15	12	11	
11	21	15	16	13	13	10	32	16	12	11	
11	21	15	16	13	13	10	31	15	12	12	
11	21	16	17	13	14	10	33	16	13	11	
11	21	16	18	13	14	10	32	15	12	11	
11	21	17	18	13	13	10	30	14	12	11	
11	21	16	17	13	13	10	32	15	12	11	
11	21	17	19	15	14	10	31	17	12	11	
11	21	16	16	14	13	11	30	15	12	11	
11	21	17	17	14	13	10	30	16	12	12	
11	21	14	16	13	13	10	32	15	12	11	
11	21	16	18	13	14	10	32	16	13	11	
11	21	15	18	13	13	9	30	15	12	11	
11	21	16	17	13	14	10	32	15	12	11	
11	21	15	17	14	13	11	30	17	13	11	
11	21	16	17	13	12	10	30	15	12	11	
11	21	16	17	13	13	10	30	15	11	11	
11	21	15	19	14	13	11	30	14	11	11	
11	21	17	18	14	13	10	30	16	12	11	
11	21	15	16	13	13	9	30	15	12	11	
11	21	15	17	13	13	10	32	15	11	11	
11	21	15	18	13	14	10	33	16	11	11	
11	21	16	16	13	13	10	31	15	13	11	
11	21	16	17	13	14	10	33	15	13	11	
11	21	18	18	13	13	10	30	15	12	11	
11	21	18	19	15	12	10	29	15	11	11	
11	21	16	19	15	13	10	29	15	12	11	
11	21	15	16	14	14	10	30	15	12	11	
11	21	16	18	14	13	10	31	14	11	11	
11	21	17	18	13	13	10	32	15	12	11	
11	21	16	18	15	13	10	30	17	11	11	
11	21	17	18	14	14	10	31	17	12	11	
11	21	16	17	13	14	10	33	15	12	11	
11	21	16	16	14	13	10	30	15	12	11	
11	21	17	18	13	12	10	30	15	12	11	
11	21	17	19	16	14	10	31	17	12	11	
11	21	16	16	14	12	10	31	15	11	11	
11	21	17	18	13	13	10	30	16	13	11	
11	21	17	18	15	13	10	30	17	13	11	
11	21	15	19	13	13	10	31	16	11	11	
11	21	15	17	14	14	10	31	15	12	11	
11	21	16	16	13	13	10	31	15	12	12	
11	21	15	16	15	14	11	31	15	12	11	
11	21	16	17	15	14	11	30	17	13	11	

TABLE 4— *Continued.*

Y-STR haplotype											
	DYS392	DYS390	DYS385a/b	DYS393	DYS389I	DYS391	DYS389II	DYS19	DYS439	DYS438	*n*
11	21	17	18	15	14	10	30	16	12	11	
11	21	17	18	15	13	10	30	17	12	11	
11	21	16	16	12	11	10	29	17	12	11	
11	21	16	17	13	13	10	32	14	12	11	
11	21	16	17	14	13	11	30	16	13	11	
11	21	16	16	14	13	11	30	16	12	11	
11	21	16	17	14	13	10	30	16	11	11	
11	21	14	17	13	13	11	31	15	12	11	
11	21	15	16	14	13	11	30	16	12	11	
11	22	16	17	13	14	10	31	16	12	11	
11	22	14	14	13	13	10	30	16	12	9	
11	22	15	17	13	14	10	31	15	12	11	
11	22	14	18	15	15	10	32	15	13	11	
11	22	16	17	13	14	10	31	16	11	11	
11	22	15	16	13	14	10	31	16	12	11	
11	22	17	18	13	14	10	32	15	12	11	
11	22	18	19	14	13	10	29	17	11	11	
11	22	15	17	14	14	10	31	16	12	11	
11	22	15	16	13	12	10	29	16	11	8	
11	22	16	18	14	14	10	31	16	12	11	
11	22	16	18	14	13	10	31	17	12	11	
11	22	13	17	13	12	10	28	14	11	10	
11	22	15	17	14	14	10	31	15	12	11	
11	22	16	18	13	13	10	30	16	13	11	
11	22	14	14	13	12	10	28	14	12	10	
11	22	16	16	13	12	11	30	16	11	8	
11	22	13	14	13	12	10	28	14	11	10	
11	22	17	17	15	13	10	30	15	12	11	
11	22	13	16	14	12	10	30	15	14	8	
11	22	14	14	13	12	10	28	14	11	10	
11	22	14	15	14	12	10	29	15	12	10	
11	22	12	13	13	14	10	29	16	11	10	
11	22	13	14	13	12	9	28	14	11	10	
11	22	15	18	13	13	12	30	15	12	11	
11	22	14	17	14	14	10	31	16	12	11	
11	23	12	12	13	12	11	31	15	12	10	
11	23	13	15	13	13	9	32	15 16	12	10	
11	23	11	15	13	13	10	29	15	12	10	
11	23	14	15	13	12	10	28	14	11	10	
11	23	12	14	13	12	10	29	17	11	10	
11	23	15	15	13	14	10	30	14	13	9	
11	23	14	14	13	12	10	29	16	12	8	
11	23	13	17	12	12	10	28	15	15	9	
11	24	13	16	13	12	11	28	17	11	10	
11	24	13	16	12	12	11	28	15	13	9	
11	24	13	17	12	12	10	27	15	12	9	
11	24	17	17	13	13	10	30	13	11	10	
11	24	15	16	13	14	9	30	15	11	11	
11	24	16	19	13	13	10	30	13	12	10	
11	24	17	18	13	13	10	30	14	12	10	
11	24	11	14	13	13	11	29	14	11	12	
11	24	11	11	13	14	10	34	15	11	10	
11	25	15	15	13	12	11	28	14	11	11	
11	25	11	14	14	13	10	29	17	10	11	
11	25	15	16	13	13	10	31	13	11	10	
11	25	16	16	13	13	10	30	13	11	10	
11	25	11	13	13	13	10	30	15	10	11	
11	25	15	15	12	13	10	29	14	11	9	
11	25	14	15	13	12	10	28	14	11	11	
11	25	14	20	13	12	11	28	14	11	11	
11	25	19	19	14	14	11	31	15	12	11	
11	25	14	19	13	12	10	29	14	10	11	
12	21	16	16	13	14	10	27	16	12	11	
12	21	18	18	15	13	10	30	16	12	11	
12	21	17	19	15	12	10	29	17	13	11	
12	21	15	17	12	14	10	32	15	11	11	
12	21	18	19	15	13	10	30	16	11	11	
12	23	14	14	15	12	10	29	16	10	10	
12	23	12	13	13	12	11	28	14	14	12	
13	21	13	14	12	12	11	28	14	11	10	

TABLE 4— *Continued.*

	Y-STR haplotype										
	DYS392	DYS390	DYS385a/b	DYS393	DYS389I	DYS391	DYS389II	DYS19	DYS439	DYS438	*n*
13	23	11	14	13	13	10	29	14	12	12	
13	23	11	14	13	13	11	29	14	12	12	2
13	23	11	14	14	14	10	30	13	12	12	
13	23	11	14	13	13	10	28	14	11	12	
13	23	11	14	13	13	12	29	15	13	12	
13	23	10	11	13	13	11	29	14	12	12	
13	23	14	14	13	12	10	29	14	11	10	
13	24	11	14	13	13	10	30	14	12	12	2
13	24	11	16	13	13	11	29	14	13	12	
13	24	11	14	13	13	11	29	14	12	12	
13	24	11	14	13	13	10	29	14	11	12	
13	24	11	14	13	13	10	29	14	13	12	
13	24	11	14	13	12	11	28	14	13	12	
13	24	11	15	13	13	11	29	14	12	12	3
13	24	14	16	13	12	10	27	15	11	9	
13	24	11	14	13	12	11	27	14	11	12	
13	24	11	15	13	13	10	29	14	11	12	
13	24	11	14	13	13	11	28	14	12	12	
13	24	11	14	13	12	11	29	14	12	12	
13	24	11	13	13	13	11	29	14	12	12	
13	24	11	14	13	14	11	30	15	12	12	
13	24	12	15	13	13	11	30	14	13	12	
13	24	11	14	13	15	11	31	14	12	12	
13	24	11	14	13	13	10	29	15	11	12	
13	24	10	16	14	13	11	29	14	11	13	
13	24	11	14	13	13	10	28	14	13	12	
13	25	11	15	13	13	10	29	14	11	12	
13	25	11	14	13	14	11	30	14	12	12	
13	25	13	15	13	13	10	29	14	13	12	
13	25	11	14	13	14	12	30	14	12	13	
13	25	12	14	10	12	11	28	14	12	12	
14	23	11	14	13	13	10	29	14	12	12	
14	24	14	16	13	14	10	30	13	11	11	
14	24	11	14	11	13	11	29	13	12	12	
14	24	11	14	14	10	11	26	14	12	12	
14	25	11	14	13	13	11	29	14	13	12	
14	25	14	17	13	12	11	28	15	12	9	
14	25	11	14	13	14	10	30	14	11	12	

TABLE 5—*Illinois Caucasian haplotype frequency distribution.*

	Y-STR haplotype										
	DYS392	DYS390	DYS385a/b	DYS393	DYS389I	DYS391	DYS389II	DYS19	DYS439	DYS438	*n*
11	21	13	15	14	12	10	28	15	11	10	
11	21	13	14	13	13	10	29	15	11	10	
11	21	13	15	14	12	10	29	15	11	10	
11	22	12	14	12	12	10	29	15	11	10	
11	22	14	14	13	12	10	29	14	14	10	
11	22	13	15	14	13	10	32	15	12	10	
11	22	14	16	13	12	10	29	14	11	10	
11	22	12	14	14	12	10	30	14	11	10	
11	22	13	14	13	12	10	28	14	11	10	
11	22	14	14	14	12	11	29	15	11	10	
11	22	13	14	13	13	10	29	14	11	10	
11	22	12	14	13	13	10	29	15	11	10	
11	22	14	14	13	12	10	30	15	11	10	
11	22	13	13	13	12	10	28	14	11	10	
11	22	14	15	12	14	10	30	14	11	9	
11	22	12	14	14	12	10	30	15	11	10	
11	23	14	17	12	13	9	30	14	12	7	
11	23	13	16	13	14	10	32	15	12	10	
11	23	13	14	12	12	10	28	14	12	9	
11	23	14	14	13	13	10	29	14	11	10	
11	24	14	16	13	12	11	29	16	11	10	
11	24	13	16	12	14	10	31	14	11	9	
11	24	11	14	13	13	10	30	16	10	11	

TABLE 5— *Continued.*

	Y-STR haplotype										
	DYS392	DYS390	DYS385a/b	DYS393	DYS389I	DYS391	DYS389II	DYS19	DYS439	DYS438	*n*
11	24	14	17	12	12	10	28	15	12	9	
11	24	14	17	13	13	10	30	13	12	10	
11	24	15	17	13	13	10	30	13	11	10	
11	24	11	14	13	14	11	30	14	12	12	
11	24	16	18	13	14	10	31	13	11	10	
11	25	15	19	13	12	10	30	13	12	10	
11	25	11	15	13	13	10	30	15	10	10	
11	25	11	15	13	14	10	31	16	10	11	
11	25	11	15	13	13	10	30	16	10	11	
11	25	11	14	13	13	11	30	14	10	11	
11	25	12	14	13	13	11	30	16	11	11	
11	25	13	17	12	13	9	29	15	12	9	
11	25	10	13	13	13	10	31	17	10	11	
11	25	11	14	13	13	12	29	16	10	11	
11	25	11	13	13	13	10	29	15	11	11	
11	26	11	14	13	14	10	32	16	10	11	
11	26	11	14	13	13	10	29	16	11	11	
12	22	15	15	15	14	10	31	15	11	10	
12	23	14	14	14	14	10	32	15	11	10	
12	23	14	14	14	14	10	32	15	12	10	
12	23	15	15	14	14	10	31	15	11	9	
12	24	10	14	13	13	11	29	15	12	12	
13	23	11	14	13	13	11	29	15	12	12	
13	23	11	14	13	13	11	29	14	12	12	4
13	23	11	14	14	13	10	29	14	12	12	
13	23	11	14	12	13	10	29	15	12	12	
13	23	11	15	13	13	10	29	15	12	12	
13	23	14	14	14	13	10	30	16	11	10	
13	23	11	14	12	13	11	29	14	10	12	
13	23	11	14	13	13	11	29	14	11	12	2
13	23	12	16	13	14	10	31	13	12	9	
13	23	11	14	13	13	11	29	13	12	12	
13	23	11	14	13	13	11	29	14	13	12	
13	23	11	13	13	13	11	28	14	11	12	
13	23	11	14	13	13	10	29	14	12	12	
13	23	11	15	13	13	10	29	14	11	12	
13	24	11	14	14	13	11	29	15	14	12	
13	24	11	14	13	13	10	30	14	12	12	4
13	24	11	14	13	14	11	30	14	11	12	
13	24	11	14	13	13	10	29	14	12	12	4
13	24	11	14	13	15	10	31	14	12	12	
13	24	11	14	13	12	10	28	14	12	12	2
13	24	12	14	13	14	11	30	14	13	12	
13	24	11	14	13	13	11	30	14	11	13	
13	24	11	14	13	14	10	30	14	11	10	
13	24	11	14	13	13	11	29	14	11	12	2
13	24	11	14	13	12	10	29	15	12	12	
13	24	11	14	13	13	10	30	14	13	12	
13	24	11	14	13	13	11	29	14	13	12	
13	24	11	14	13	14	11	31	14	12	12	
13	24	11	13	13	13	11	29	14	11	12	
13	24	10	14	13	13	10	29	14	12	12	
13	24	11	14	13	13	11	29	14	12	12	2
13	24	11	14	13	13	10	30	14	11	12	
13	24	11	15	13	11	11	27	14	11	12	
13	24	12	14	13	13	11	29	15	10	12	
13	24	12	13	13	13	11	30	14	11	12	
13	24	11	15	13	14	11	30	14	11	12	
13	24	12	15	13	12	12	28	14	12	12	
13	24	11	14	13	13	11	30	13	11	12	
13	24	11	15	13	13	10	29	14	13	12	
13	24	11	14	13	12	11	29	15	11	12	
13	24	12	12	13	13	10	29	14	12	11	
13	24	11	14	13	13	11	28	15	13	12	
13	25	17	18	14	13	9	31	13	12	10	
13	25	11	14	13	13	10	29	14	13	12	
13	25	11	14	13	13	11	29	14	11	12	
13	25	11	14	12	13	11	29	14	12	12	
13	25	11	15	13	13	10	29	14	11	12	
14	23	11	14	13	13	11	29	14	11	12	
14	23	13	20	13	13	10	29	13	12	12	

TABLE 5— *Continued.*

	Y-STR haplotype										
	DYS392	DYS390	DYS385a/b	DYS393	DYS389I	DYS391	DYS389II	DYS19	DYS439	DYS438	*n*
14	24	10	14	13	13	12	29	14	12	12	
14	24	11	13	13	13	11	29	14	12	12	2
14	24	11	14	13	13	11	29	14	11	12	
14	25	11	13	13	13	11	29	14	11	12	
14	25	11	13	13	13	11	29	14	12	12	
14	25	11	13	14	13	11	29	14	12	12	
14	26	10	12	13	13	11	29	14	13	12	
15	24	11	14	13	13	11	29	15	12	12	
15	25	11	14	13	14	11	30	14	13	12	

TABLE 6—*Illinois Hispanic haplotype frequency distribution.*

	Y-STR haplotype										
	DYS392	DYS390	DYS385a/b	DYS393	DYS389I	DYS391	DYS389II	DYS19	DYS439	DYS438	*n*
11	21	16	18	13	14	11	31	14	11	11	
11	21	15	17	14	12	10	30	17	11	11	
11	21	16	17	13	14	10	33	15	12	11	
11	21	17	18	14	13	10	30	16	13	11	
11	21	17	18	14	13	10	30	17	12	11	
11	22	12	14	14	12	10	28	15	12	10	
11	22	13	14	13	12	10	28	14	11	10	
11	22	14	14	13	12	10	28	15	11	10	
11	22	13	18	13	13	10	29	14	13	10	
11	22	16	17	13	13	10	30	17	12	11	
11	22	14	15	12	12	10	28	15	12	10	
11	22	13	14	14	12	10	30	15 16	11	10	
11	23	15	19	13	13	10	32	13	14	10	
11	23	13	18	12	12	11	30	14	11	10	
11	23	15	18	13	12	10	29	13	12	10	
11	23	12	17	13	14	9	30	14	12	10	
11	23	13	18	13	13	11	30	14	12	10	
11	23	14	15	12	12	10	29	14	11	9	
11	23	13	16	12	13	10	30	14	11	9	
11	24	11	15	13	14	11	31	16	11	10	
11	24	16	16	13	13	10	30	13	11	10	
11	24	16	18	12	13	10	29	15	12	9	
11	24	13	14	13	14	9	30	13	10	10	
11	24	18	20	14	12	10	29	13	10	10	
11	24	13	14	13	14	9	30	13	10	10	
11	24	13	13	12	14	9	30	13	10	10	
11	24	15	17	12	12	9	28	13	12	11	
11	24	14	18	13	13	10	30	13	12	10	
11	24	13	17	12	12	10	28	15	13	9	
12	23	15	15	14	13	11	29	15	11	10	
13	23	11	14	13	13	12	29	14	11	12	
13	23	11	14	13	13	11	29	14	13	12	
13	23	11	14	13	14	11	30	16	11	11	
13	23	15	17	13	12	9	28	13	13	11	
13	23	15	16	13	13	11	29	14	12	12	
13	23	11	11	13	14	10	30	14	13	12	
13	23	11	14	13	14	11	30	14	12	12	
13	24	11	14	13	13	11	29	14	12	12	
13	24	11	14	13	13	10	29	16	12	12	
13	24	11	14	13	12	11	28	14	13	12	
13	24	12	12	13	13	10	28	16	12	11	
13	24	11	14	14	14	12	30	13	12	12	
13	24	11	15	13	12	11	28	14	12	12	
13	24	12	14	13	13	10	29	14	12	12	
13	24	12	15	13	13	10	29	13	12	12	
13	24	11	14	13	13	10	29	14	12	12	
13	24	11	14	13	13	11	29	14	11	12	2
13	24	11	14	13	14	11	29	15	12	12	
13	24	11	15	13	13	11	29	14	11	12	
13	24	11	14	13	14	11	31	13	12	12	
13	24	16	18	14	12	9	28	14	12	11	

TABLE 6— *Continued.*

Y-STR haplotype											
	DYS392	DYS390	DYS385a/b	DYS393	DYS389I	DYS391	DYS389II	DYS19	DYS439	DYS438	*n*
13	24	12	14	13	14	10	30	14	12	12	
13	24	11	11	14	13	11	29	14	12	12	
13	24	11	15	13	13	11	29	14	13	12	
13	24	16	18	13	12	9	29	13	13	11	
13	24	11	11	13	13	11	29	14	13	12	
13	25	11	14	13	13	11	30	14	12	12	
13	26	14	19	13	12	10	28	13	13	11	
13	27	11	14	13	13	11	29	14	12	13	
14	24	11	15	13	13	10	29	14	12	12	
14	24	16	17	13	15	10	32	13	11	11	
14	24	11	14	13	13	11	29	14	12	12	
14	24	13	18	13	12	10	29	13	12	11	
14	25	11	17	13	14	10	30	13	11	11	
14	25	15	19	13	13	11	31	13	11	11	
16	24	15	18	12	13	11	30	13	12	11	
16	24	13	18	13	13	10	30	13	13	11	

autosomal STR loci and provide the probability that two randomly chosen haplotypes will be different. Average autosomal STR gene diversity values were calculated at 0.811 and 0.804 for Caucasian and African American populations using data reported in the Applied Biosystems AmpFlSTR Profiler Plus population study (3). Caucasian, African American, and Hispanic population data colleted in this study identified average Y-STR gene diversity values of 0.599, 0.613, and 0.668.

The haplotype diversity value identified for the Caucasian population in this study was 0.9966 with 95 unique haplotypes identified in a population of 117. A haplotype diversity value of 0.9993 was identified for the African American population with 195 of 218 haplotypes identified as unique in the database. The haplotype diversity value identified for the Hispanic population in this study was 0.9996 with 66 unique haplotypes identified in the population of 68 individuals. One gene duplication event was identified at the DYS19 locus in the African American and Hispanic databases (Tables 4 and 6).

Population data collected during this study has been submitted to the YHRD-Y Chromosome Haplotype Reference Database. This data along with other population groups can be found at http://www.yhrd.org/index.html

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