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Letter to the Editor

STR data for the AmpF*l*STR Identifiler from Dobruja region (SE Romania)

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ABSTRACT

Allele frequencies for 15 STR loci included in AmpFlSTR Identifiler kit (D8S1179, D21S11, D7S820, CSF1PO, D3S1358, TH01, D13S317, D16S539, D2S1338, D19S433, vWA, TPOX, D18S51, D5S818, and FGA) were determined in a sample of 569 unrelated individuals living in the region of Dobruja (SE Romania). No deviations from Hardy–Weinberg equilibrium were observed. Genetic parameters of forensic interest were calculated and comparison with geographically nearby populations was performed.

Dear Editor,

We determined the allele frequencies for 15 STR loci included in AmpF*l*STR Identifiler kit (D8S1179, D21S11, D7S820, CSF1PO, D3S1358, TH01, D13S317, D16S539, D2S1338, D19S433, vWA, TPOX, D18S51, D5S818, and FGA) in a sample of 569 unrelated individuals living in the region of Dobruja (SE Romania – Tulcea and Constanta counties).

The territory of Dobruja (Dobrogea in Romanian) is an informal and also a historical region located between the lower Danube River and the Black Sea including the Danube Delta, Romanian coast and the northernmost part of the Bulgarian coast, and comprises Northern Dobruja, which is part of Romania, and Southern Dobruja, which belongs to Bulgaria. In the past this region had been conquered by Greeks, Romans, Tatars, Turks and Slavs for its economical and strategic value. The resulted population is an ethno – linguistic mixture in which Romanians are the majority [1].

DNA from buccal swabs was extracted, 35 samples by Chelex 100 method [2] and 532 samples by an adapted version of AGOWA mag DNA Isolation Kit Sputum for Freedom Evo 150 Liquid Handling Platform [3]. Approximately 1 ng target DNA was amplified using the commercial typing kit, AmpF*l*STR Identifiler™ PCR Amplification Kit (Applied Biosystems, Foster City, CA, USA), according to the manufacturer's instructions. DNA Typing was done using an ABI Prism 3100 Genetic Analyzer and reference sequenced ladders (Applied Biosystems). Regarding analysis of data, Hardy–Weinberg equilibrium (P), expected heterozygosity (He), observed heterozygosity (Ho) and population differentiation tests were carried out with the Arlequin Software Version 3.1.1 [4]. Matching probability (MP), power of discrimination (PD), polymorphism information content (PIC), probability of exclusion (PE) and typical paternity index (TPI) were calculated with the Powerstats Version 1.2 (Promega Corp.) [5].

The observed allele frequencies and statistical parameters for forensic testing based on the 15 STR loci in Dobruja population are summarized in see supplementary Table 1. No deviations from Hardy–Weinberg equilibrium were observed. The combined power of discrimination (PD) and the combined power of exclusion (PE) for the 15 studied loci were 0.999999999999999997 and 0.999999, respectively.

Single locus comparisons with available published data on other geographically nearby populations (see supplementary Table 2), revealed significant differences between population from Dobruja and the Romania (Bucharest area) [6] at one locus – D19S433, between populations from Dobruja and Greece [7] at one locus – TPOX, between population from Dobruja and Turkey [8] at two loci – D7S820 and D18S51, and finally between population from Dobruja and Belarus [9] at six loci – TH01, D13S317, D16S539, TPOX, D18S51 and D5S818. Single locus comparisons did not show any statistically significant differences between populations from Dobruja and Italy [10] and also from Dobruja and Serbia [11].

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Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at doi:10.1016/j.fsigen.2008.09.009.

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