

FOR THE RECORD

C. Battaglia,¹ Ph.D.; D. Ruscitto,¹ G. Destro-Bisol,¹ Ph.D.; L. Vacca,² Ph.D.; C. Calò,² Ph.D.; and G. Vona,² M.Sc.

Frequencies at CD4, FES, and F13A1 Microsatellite Loci in Central-Southern Sardinia (Italy)

POPULATION: We have analyzed the distribution of allele frequencies at three microsatellite loci (CD4, FES, and F13A1) among individuals living and born in central-southern Sardinia (Italy), in a zone called “Trexenta” within the province of Cagliari ($n = 50$). This area has been already studied from the linguistic and genetic point of view (1) using classical polymorphism at protein level. Informed consent was obtained from all donors.

KEYWORDS: forensic science, microsatellite, CD4, FES, F13A1, Central-southern Sardinia

DNA samples were extracted and purified by salting out procedure, precipitated by absolute ethanol and quantified by 1% agarose gel. The DNAs were amplified by Perkin Elmer PCR system 2400 using standard PCR protocols (2–4). Amplified products were separated in denaturing acrylamide gel using an Automated Laser Fluorescent apparatus as previously described (5). Hardy-Weinberg tests and analysis of genotypic disequilibrium between

unlinked loci were carried out by using the Genepop software (6). The results obtained are shown in Table 1. It is to be noted that in all single-locus and multilocus tests, the p -value was statistically insignificant. Furthermore, we calculated the linkage disequilibrium between genotypes of independent loci. Among the possible three pairs of loci, only one case of statistically significant p -value was obtained (FES/F13A1; $p = 0.024$). Complete data are available at the e-mail address of the corresponding author upon request.

TABLE 1—Allele frequencies at CD4, FES, and F13A1 loci in central-southern Sardinia.

Allele	CD4	FES	F13A1
3,2	...	...	0.080
4	0.010	...	0.020
5	0.350	...	0.140
6	0.280	...	0.360
7	...	...	0.360
8	0.010	...	...
10	0.330	0.290	...
11	0.010	0.330	0.010
12	0.010	0.310	0.010
13	...	0.070	...
15	...	...	0.020
Score (U) test (HE)	0.604	0.495	0.225
Score (U) test (HD)	0.403	0.511	0.768
PD	0.842	0.854	0.870
PE	0.398	0.428	0.493
	0.630	0.650	0.670

HE = heterozygote excess; HE = heterozygote deficiency; PD = Power of Discrimination; PE = Power of Exclusion.

¹ Department of Animal and Human Biology, University “La Sapienza” Rome, Italy.

² Department of Experimental Biology, University of Cagliari, Italy.

References

1. Capello N, Rendine S, Griffo R, Mameli GE, Succa V, Vona G, et al. Genetic analysis of Sardinia: I. data on 12 polymorphisms in 21 linguistic domains. *Ann Hum Genet* 1996;60:125–41.
2. Edwards MC, Clemens PR, Tristan M, Pizzuti A, Gibbs RA. Pentanucleotide repeat length polymorphism at the human CD4 locus. *Nucleic Acid Res* 1991;19:4791.
3. Polymeropoulos MH, Rath DS, Xiao H, Merrill CR. Tetranucleotide repeat polymorphism at the human c-fes/fps proto-oncogene (FES). *Nucleic Acids Res* 1991a;19:4018.
4. Polymeropoulos MH, Rath DS, Xiao H, Merrill CR. Tetranucleotide repeat polymorphism at the human coagulation factor XIII subunit gene (F13A1). *Nucleic Acids Res* 1991b;19:4306.
5. Moschetti A, Boschi I, Dobosz M, Destro-Bisol G, Pescarmona M, d’Aloja E, et al. Fluorescence based classification of microsatellites using wave-length semiautomatic sequencer: genotype assignment and identity test by analysis of comigrating peak profiles. *Electrophoresis* 1995;16:1875–80.
6. Raymond M, Rousset F. GENEPOP (version 2.0): a population genetics software for exact tests and ecumenicism. Montpellier, France 1995.

Additional information and reprint requests:

Prof. Giuseppe Vona
Department of Experimental Biology
University of Cagliari, Italy
Cittadella Universitaria
S.P. Monserrato—Sestu Km 0,700
09042 Monserrato (CA)
E-mail: vona@vaxca1.unica.it