

ANALYSIS OF THE STR POLYMORPHISM VWA AND FES: ALLELE FREQUENCY AND FAMILY STUDIES IN AN ITALIAN POPULATION SAMPLE.

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System and locus: HumVWA31 (12p12-pter) and HumFES (15q25-qter)

Population and sample size: Veneto (Italy). N: 115

Methods: Primers and PCR amplification conditions(Urquhart et al.).

Electrophoretic methods: 8% native vertical polyacrilamide gel 25 cm the electrophoresis was stopped when the bromophenol blu front had reached the anodal end of the gel. Typing was performed by comparison with a ladder of known alleles.

Results:

HumVWA31 observed genotypes

gen.	obs.	gen.	obs.	gen.	obs.
14-14	2	15-16	2	17-17	16
14-15	2	15-17	12	17-18	11
14-16	6	15-18	2	17-19	9
14-17	9	15-19	4	18-18	5
14-18	2	16-16	7	18-19	1
14-19	1	16-17	13	18-20	1
15-15	5	16-18	5		

HumVWA31 Allele frequencies

Allele frequency	allele frequency	allele frequency
14 0.1044	17 0.3740	19 0.0652
15 0.1391	18 0.1391	20 0.0043
16 0.1739		

$X^2 = 11.766$, d.f. 20, $P = 0.90$

HumFES observed genotypes

gen.	obs.	gen.	obs.	gen.	obs.
8-10	1	10-11	22	11-13	5
8-12	3	10-12	14	11-14	1
9-10	4	10-13	7	12-12	5
9-12	1	11-11	20	12-13	3
10-10	11	11-12	18		

HumFES Allele frequencies

Allele	frequency	allele	frequency	allele	frequency
8	0.0174	11	0.3740	13	0.0652
9	0.2170	12	0.2130	14	0.0043
10	0.3043				

$\chi^2 = 4.534$, d.f. 14, $P = 0.991$

Comments: 12 excluded paternity cases, were examined for exclusion with each of the two STRs: 50% were excluded with HumFES, while 66% were excluded by HumVWA31; 33% were excluded with both systems. The results of statistical analysis and the informativity derived from our results data demonstrate the efficiency and suitability of this marker for routine application in forensic investigation.

References

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- 3 Urquhart A, Kimpton K, Downes TJ Gill P (1994) Variation in short tandem repeat sequences a survey of twelve microsatellite loci for use as forensic identification markers. *Int J Leg Med* 107:13-20