

**FREQUENCY DATA ON THE LOCI LDLR, GYPA, HBGG, D7S8 AND GC IN A POPULATION RESIDENT IN MADRID (SPAIN).**

M. Herrera, C. Asperilla, M. A. Aumente, L. Prieto, E. Arroyo, J. M. Ruiz de la Cuesta.

Departamento de Toxicología y Legislación Sanitaria. Escuela de Medicina Legal. Facultad de Medicina. Universidad Complutense de Madrid. 28040 - Madrid. Spain.

**System and loci:** LDLR, GYPA, HBGG, D7S8 AND GC.

**Population and sample size:** Madrid (Central Spain). N: 207.

**Methods:** Standard procedure according to Amplitype PCR PM Amplification and Typing Kit Manual. (Perkin Elmer, USA). The comparison between expected and observed genotypes resulted in Hardy-Weinberg equilibrium through a common chi-square test.

**Results:**

<b>Observed genotypes</b>		
<b>LDLR</b>	<b>AA</b>	<b>48</b>
	<b>AB</b>	<b>89</b>
	<b>BB</b>	<b>70</b>
<b>GYPA</b>	<b>AA</b>	<b>50</b>
	<b>AB</b>	<b>114</b>
	<b>BB</b>	<b>43</b>
<b>HBGG</b>	<b>AA</b>	<b>53</b>
	<b>AB</b>	<b>104</b>
	<b>AC</b>	<b>2</b>
	<b>BB</b>	<b>47</b>
	<b>BC</b>	<b>1</b>
	<b>CC</b>	<b>0</b>
<b>D7S8</b>	<b>AA</b>	<b>55</b>
	<b>AB</b>	<b>106</b>
	<b>BB</b>	<b>46</b>
<b>GC</b>	<b>AA</b>	<b>19</b>
	<b>AB</b>	<b>19</b>
	<b>AC</b>	<b>75</b>
	<b>BB</b>	<b>6</b>
	<b>BC</b>	<b>33</b>
	<b>CC</b>	<b>55</b>

<b>Allele frequencies.</b>			
<b>Alleles-&gt;</b>	<b>A</b>	<b>B</b>	<b>C</b>
<b>LDLR</b>	.4468	.5531	-
<b>GYP A</b>	.5169	.4830	-
<b>HBGG</b>	.5120	.4806	.0072
<b>D7S8</b>	.5217	.4782	-
<b>Gc</b>	.3188	.1545	.5265

#### Hardy-Weinberg equilibrium:

<b>System</b>	<b>d.f.</b>	<b>X<sup>2</sup></b>	<b>p</b>
<b>LDLR</b>	1	3.514	0.1>p>0.05
<b>GYP A</b>	1	2.184	0.2>p>0.1
<b>HBGG</b>	3	0.375	0.95>p>0.9
<b>D7S8</b>	1	0.141	0.75>p>0.7
<b>Gc</b>	3	1.069	0.8>p>0.75

#### Statistical parameters of medico-legal interest:

Discrimination Power (DP), Chance of Exclusion (CE) and Heterozygosity Index (H) were included separately for each marker and combined in the case of the two first parameters. The DP was calculated following the method of Fisher (1951).

<b>System</b>	<b>DP</b>	<b>CE</b>	<b>H</b>
<b>LDLR</b>	.6471	.1860	0.4299
<b>GYP A</b>	.5952	.1873	0.5507
<b>HBGG</b>	.6304	.1965	0.5169
<b>D7S8</b>	.6178	.1872	0.5120
<b>Gc</b>	.7550	.3157	0.6135
<b>COMB.</b>	.9950	.7044	-

#### Comments:

The calculated values for DP, CE and H are similar to those obtained in other caucasoid population studies (Hochmeister et al., 1994; Perkin Elmer, PM kit Manual).

#### References:

Fisher RA (1951) Standard calculations for evaluating a blood group system. *Heredity* 5: 95-102.

Hochmeister MN, Budowle B, Borer UV, Dirrhofer R. (1994) Swiss population data on the loci HLA-DQA1, LDLR, GYP A, HBGG, D7S8, GC and D1S80. *Forensic Sci. Int.* 67: 175-184.

Perkin Elmer Corp., USA (1994) Amplitype PM PCR Amplification and Typing Kit Manual. Part. No. N808-0057. p. 3.