

## FOR THE RECORD

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# HLA-DQA1 and Polymarker Locus Allele Frequencies in the Northeast Region of Colombia (Departments of Santander, Norte de Santander, Boyaca and Casanare)

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**POPULATION:** Departments of Santander, Boyaca, Norte de Santander and Casanare, Colombia

**KEYWORDS:** forensic science, DNA typing, HLA-DQA1, LDLR, GYPA, HBGG, D7S8, GC, population genetics, Colombia

Whole blood samples were obtained in the genetics laboratory of the UIS (Universidad Industrial of Santander) in collaboration with ICBF (Instituto Colombiano de Bienestar Familiar) from unrelated Colombian donors. Genomic DNA was extracted using the salting out procedure. The samples were typed for HLA-DQA1/PM loci by using the Amplitype PM and DQA1 kit following manufacturer's instructions (PE-Biosystems, Foster City, CA). Statistical analysis was performed as previously reported (1). The complete data set is available to any interested researcher upon request from

Oscar Garcia, Area de Laboratorio Ertzaintza, Av. Montevideo 3, 48002-Bilbao, Spain.

### References

1. Yunis JJ, Garcia O, Baena A, Arboleda G, Uriarte I, Yunis E. Population frequency for the short tandem repeat loci D18S849, D3S1744, and D12S1090 in Caucasian-Mestizo and African descent populations of Colombia. *J Forensic Sci* 2000;45(2):429–31.

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TABLE 1—*Distribution of HLA-DQA1 alleles in the departments of Santander, Boyaca, Norte de Santander and Casanare, Colombia.*

| HLA-DQA1<br>N | Santander<br>1313 | Boyaca<br>587 | Norte de Santander<br>338 | Casanare<br>94 |
|---------------|-------------------|---------------|---------------------------|----------------|
| Allele        |                   |               |                           |                |
| 1.1           | 0.135             | 0.101         | 0.111                     | 0.1127         |
| 1.2           | 0.117             | 0.116         | 0.114                     | 0.149          |
| 1.3           | 0.063             | 0.054         | 0.046                     | 0.069          |
| 2             | 0.101             | 0.089         | 0.143                     | 0.080          |
| 3             | 0.255             | 0.290         | 0.280                     | 0.277          |
| 4             | 0.328             | 0.348         | 0.306                     | 0.314          |
| H             | 0.778             | 0.739         | 0.778                     | 0.734          |
| PD            | 0.920             | 0.912         | 0.918                     | 0.909          |
| CE            | 0.559             | 0.492         | 0.559                     | 0.483          |
| P*            | 0.974             | 0.121         | 0.422                     | 0.428          |
| P**           | 0.965             | 0.062         | 0.578                     | 0.284          |

H (observed heterozygosity), PD (Power of discrimination), CE (a priori chance of exclusion), P\* (Hardy-Weinberg equilibrium, chi square test), P\*\* (Hardy-Weinberg equilibrium, exact test based on 2000 shufflings).

TABLE 2—*Distribution of Amplotype PM alleles in the department of Santander, Colombia.*

|           | N   | LDLR  |       | GYPA  |       | HBGG  |       |       | D7S8  |       | GC    |       |       |
|-----------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|           |     | A     | B     | A     | B     | A     | B     | C     | A     | B     | A     | B     | C     |
| Santander | 202 | 0.527 | 0.473 | 0.636 | 0.364 | 0.416 | 0.562 | 0.022 | 0.616 | 0.384 | 0.215 | 0.252 | 0.532 |
| H         |     | 0.460 |       | 0.549 |       |       | 0.525 |       |       | 0.450 |       | 0.604 |       |
| PD        |     | 0.641 |       | 0.559 |       |       | 0.646 |       |       | 0.619 |       | 0.775 |       |
| CE        |     | 0.155 |       | 0.235 |       |       | 0.210 |       |       | 0.148 |       | 0.296 |       |
| P*        |     | 0.316 |       | 0.090 |       |       | 0.835 |       |       | 0.538 |       | 0.589 |       |
| P**       |     | 0.328 |       | 0.095 |       |       | 0.850 |       |       | 0.561 |       | 0.549 |       |

H (observed heterozygosity), PD (Power of discrimination), CE (a priori chance of exclusion), P\* (Hardy-Weinberg equilibrium, Chi square test), P\*\* (Hardy-Weinberg equilibrium, exact test based on 2000 shufflings).

TABLE 3—*Distribution of Amplotype PM alleles in the department of Boyaca, Colombia.*

|        | N  | LDLR  |       | GYPA  |       | HBGG  |       |       | D7S8  |       | GC    |       |       |
|--------|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|        |    | A     | B     | A     | B     | A     | B     | C     | A     | B     | A     | B     | C     |
| Boyaca | 71 | 0.514 | 0.486 | 0.613 | 0.387 | 0.338 | 0.641 | 0.021 | 0.725 | 0.275 | 0.225 | 0.225 | 0.549 |
| H      |    | 0.521 |       | 0.577 |       |       | 0.507 |       |       | 0.465 |       | 0.648 |       |
| PD     |    | 0.613 |       | 0.552 |       |       | 0.618 |       |       | 0.539 |       | 0.761 |       |
| CE     |    | 0.207 |       | 0.265 |       |       | 0.194 |       |       | 0.158 |       | 0.352 |       |
| P*     |    | 0.826 |       | 0.084 |       |       | 0.816 |       |       | 0.245 |       | 0.307 |       |
| P**    |    | 0.814 |       | 0.088 |       |       | 0.905 |       |       | 0.239 |       | 0.357 |       |

H (observed heterozygosity), PD (Power of discrimination), CE (a priori chance of exclusion), P\* (Hardy-Weinberg equilibrium, Chi square test), P\*\* (Hardy-Weinberg equilibrium, exact test based on 2000 shufflings).