Chilean Population Data on Thirteen PCR-Based Loci

Jorquera H., Budowle B., Moreno F., Aguirre E., Acuña M. and Cifuentes L.
Servicio Medico Legal, Santiago, Chile

The use of the Polymerase Chain Reaction (PCR) in human DNA Typing has provided a powerful tool for forensic and paternity testing analyses. The PCR-based technology offer serveral advantages over the restriction fragment length polymorphism (RFLP) methods, such as short analysis times, the ability to type degraded biological material and the potential for the automating process. Moreover, several PCR-based commercial kits are available to facilitate typing of genetic markers.

In order to apply DNA analysis for human identity testing in Chile, a sample population of unrelated individuals from the capital, Santiago, were typed for the loci LDLR, GYPA, HBGG, D7S8, Gc, HLA-DQA1, D1S80, CSFIPO, TPOX, HUMTH01, D12S1090, D3S1744 and D18S849.

The distribution of observed allelic frecquencies for the thirteen loci are described. All loci were highly polymorphic and all meet with Hardy-Weinberg expectations (HWE) except for the loci HBGG and TH01. The departure from HWE were significant but not highly significant. The data suggest that the frequency of a multiple locus profile can be estimated by the application of the product rule. Generally, the allele distributions of these thirteen loci are similar to southwestern Hispanics.

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