

**DNA TYPING: CRIMINAL CASES AND HUMAN REMAINS IDENTIFICATION IN RIO DE JANEIRO, BRAZIL**

**Andréa Carla Goés, Cristiane Domingues, João Marreiro, Eduardo Paradela, Andreia Ribeiro and Elizeu F. de Carvalho**

*Laboratório de Diagnósticos por DNA. Instituto de Biologia Roberto Alcântara Gomes  
Rio de Janeiro State University, Rio de Janeiro, Brazil*



The Rio de Janeiro State University DNA Laboratory is the unique civil service in the Rio de Janeiro State, Brazil, working on criminal cases and human identification using DNA evidence. The DNA Laboratory works in agreement with several organizations of the Government and Justice Court in order to develop the Rio De Janeiro State DNA Forensic Program. The State Secretaries of Science and Technology (SCT), Public Defense (DPGE) and Public Security (SSP) - Civil Police, Polinter, Institute of Legal Medicine, Institute of Criminalists - and the Public Prosecutor's Office are members of this Program.

Since the beginning of this year, we have experienced an increase of crimes in our state in which the victims were burned in order to impair his/her identification. We were working in some of those criminal cases and in others related with a concept from a sexual assault casework and dried blood specimens collected from guns, carpets, shoes, brick, fragments of roofing tiles and other objects selected in the crime scenes. Routinely, we extracted DNA from the biological evidences, usually soft tissues or bones from the victims, and from blood samples or oral swabs taken from alleged relatives of the dead persons, as reference standards. The alleles were compared after PCR amplification of at least 13 STR loci, 4% polyacrylamide denaturing gel electrophoresis and silver staining detection. In some cases we also used chemiluminescent VNTR probes together with STR analysis.

The DNA Laboratory is also working on paternity cases and in the last two years performed more than 1800 paternity tests using whole blood DNA samples and, at least, six chemiluminescent single locus probes. Currently, D1S7, D2S44, D4S139, D5S110, D6S132, D7S467, D8S358, D10S28, D14S13, D16S85 and D17S79 loci are being used for DNA typing at our laboratory. Some of those DNA samples were used to construct a STR loci database of our population in collaboration with the Serology and DNA Laboratory, West Palm Beach Police County, Fl, USA. Nowadays, we are also introducing silver staining STRs systems in the paternity test routine.

Granted by FAPERJ - Research Foundation of Rio de Janeiro

