

POSITIVE IDENTIFICATION OF A SERIAL RAPIST USING RESTRICTION FRAGMENT LENGTH POLYMORPHISM (RFLP) DNA ANALYSIS

Kong Boon Lim, Baktiar Kassim, Lay Hong Seah, Yoon Hin Lee, and Ong Koh Chee

Department of Chemistry Malaysia, Petaling Jaya, Malaysia



This accompanying presentation describes work conducted by the Department of Chemistry, Malaysia in its effort to identify a serial rapist who was believed to be involved in at least 14 rape/sexual assault cases, which took place from January to May 1997 in the territories of Selangor and Kuala Lumpur. Here we present results obtained from the 14 cases that were submitted for deoxyribonucleic acid (DNA) analysis. The serial rapist was positively identified to be consistent with being the source of the seminal stains detected in 10 of the 14 cases investigated. The DNA profiles of the suspect developed using the RFLP technique with non-isotopic chemiluminescent detection comprising the HaeIII restriction fragment alleles at genetic loci D2S44, D4S139, D5S110 and D10S28 matched those obtained from the seminal stains found on the crime samples. The probability of random coincidental match (as calculated based on the Malaysian Malay Population Database) was approximately 1 in 18,038,000.

All these 14 cases received for DNA analysis were distributed among three scientific officers, each of whom also carried out an analysis on the reference blood specimen of the suspect. On comparison of all the results obtained by the 3 different officers, the maximum size deviation among the corresponding alleles between these 10 cases and the suspect's blood sample were found to vary from a low of 2.26% to a high of 4.94% which was within our match window of 5.0%.