



### B20 The Arab Population Data for 10 Y-Chromosome Specific STRs

Hisham E. Ragab, MD\*, Ahmed H. Al-Awadi, PhD, Safia M. Abdulla, BS, Lathqia A. Kassem, BS, and Nisreen W. Haddad, MS, Abu Dhabi Police Forensic Science Laboratory, PO Box 32404, Abu Dhabi, United Arab Emirates

After attending this presentation, attendees will understand the differences and similarities between the studied Arab Population groups and other population groups.

This presentation will impact the forensic community by adding to the Y-Chromosome population database as until now there is no available Arab population data.

**Objective:** The objective of the present work: 1. to establish basic data base as regards the 10 Y-chromosome STR loci for 6 Arab population groups, and 2. to evaluate the significance of an inclusion with Y-chromosome specific STRs after establishing haplotype frequencies for the examined population groups.

**Nature of Study:** Population Study.

**Materials, Methods and Results:** The study was conducted on blood samples which were collected from unrelated healthy adult males from 6 Arab population groups living in Abu Dhabi, United Arab Emirates (U.A.E.) including native population in Abu Dhabi, and from Egypt, Syria, Sudan, Jordan and Oman. DNA was extracted by both the organic phenol-chloroform, and FTATM paper extraction protocols. After quantitation of the extracted DNA (organic extraction only) amplification was carried out using about 2 ng of genomic DNA in a total reaction volume of 25 µl - one amplifications - for 10 loci - (DYS19, DYS385, DYS389I, DYS389II, DYS390, DYS391, DYS392, DYS393, DYS438 and DYS439) using Y-STR kit from Promega. The amplified product was tested on the ABI 310 genetic analyzer and the obtained profiles were interpreted and analyzed using Gene Scan analysis software (PE Applied Biosystems) and the genotypes were determined by using the Genotyper DNA fragment analysis software (PE Applied Biosystems) with the Power Typer Y Macro. Haplotype frequencies were calculated for each STR locus for U.A.E. population and other population groups, frequencies were calculated through the gene counting method, haplotypes and gene diversity was calculated. The obtained results were compared with relevant Arab and other ethnic groups database.

#### Forensic DNA, Y-Chromosome STRs, Arab Population