

PROTOCOLS FOR FORENSIC MITOCHONDRIAL DNA ANALYSIS

References		
Status:Published		Document ID: 1167
DATE EFFECTIVE 12/06/2016	APPROVED BY mtDNA Technial Leader	PAGE 1 OF 3

References

DNA Sequencing and Analysis

Anderson S, Bankier AT, Barrell BG, de Bruijn MH, Coulson AR, Drouin J, Eperon IC, Nierlich DP, Roe BA, Sanger F, Schreier PH, Smith AJ, Staden R, Young IG. Sequence and organization of the human mitochondrial genome Nature 1981; 290: 457-465. MEDLINE- 81173052 PUBMED-7219534

Andrews RM, Kubacka I, Chinnery PF, Lightowlers RN, Turnbull DM, Howell N. Reanalysis and revision of the Cambridge reference sequence for human mitochondrial DNA. Nat. Genet. 1999; 23 (2): 147. MEDLINE- 99438386 PUBMED- 10508508.

Applied Biosystems. 3130/3130xl Genetic Analyzers Getting Started Guide. 2004. Part Number 4352715 Rev. B. Applied Biosystems, Foster City, CA.

Applied Biosystems. 3130/3130xl Genetic Analyzers Maintenance, Troubleshooting, and Reference Guide. 2004. Part Number 4352716 Rev. B. Applied Biosystems, Foster City, CA.

Applied Biosystems. DNA Sequencing Analysis Software User Guide: Version 5.1 for Windows® XP and 2000 Platforms. 2003. Part Number 4346366 Rev. B. Applied Biosystems, Foster City, CA.

Budowle B, Fisher C, Polanskey D, Hartog BD, Kepler R, Elling J. Standardizing the Nomenclature for mtDNA Haplotypes with an Intuitive Hierarchal Execution Software Program. ISFG Conference. 2007.

Budowle B, Wilson MR, DiZinno JA, Stauffer C, Fasano MA, Holland MM, Monson KL. Mitochondrial regions HVI and HVII population data. Forensic Sci Int 1999; 103: 23-35.

Butler, J.M. Advanced Topics in Forensic DNA Typing: Interpretation. Academic Press. 2015. ISBN: 978-0-12-405213-0.

Carracedo A, Baer W, Lincoln P, Mayr W, Morling N, Olaisen B, Schneider P, Budowle B, Brinkmann B, Gill P, Holland MM, Tully G, Wilson MR. DNA commission of the International Society for Forensic Genetics: Guidelines for mitochondrial DNA typing. Forensic Sci Int 2000; 110: 79-85.

Clopper, CJ, and Pearson, ES. The use of confidence or fiducial limits illustrated in the case of

Controlled versions of Department of Forensic Biology Manuals only exist in the Forensic Biology Qualtrax software. All printed versions are non-controlled copies.

© NYC OFFICE OF CHIEF MEDICAL EXAMINER

PROTOCOLS FOR FORENSIC MITOCHONDRIAL DNA ANALYSIS

References		
Status:Published		Document ID: 1167
DATE EFFECTIVE 12/06/2016	APPROVED BY mtDNA Technial Leader	PAGE 2 OF 3

the binomial. *Biometrika* 1934; 26, 404-413.

Gene Codes. Sequencher™ 4.0 User Manual. 1999. Gene Codes Corporation. Ann Arbor, MI.

Holland MM, Parsons TJ. Mitochondrial DNA sequence analysis - Validation and use for forensic casework. *Forensic Science Review* 1999; 11: 21-50.

Parson W, Dur A. EMPOP – A forensic mtDNA database. *FSI Genetics*. 2007; 1(2): 88-92.

Sanger FS, Nilken S, Coulson AR. Sequencing with chain terminating inhibitors. *Proc Nat Acad Sci U.S.A.* 1977; 74: 5463-5467.

Scientific Working Group on DNA Analysis Methods (SWGDM). Guidelines for mitochondrial DNA (mtDNA) nucleotide sequence interpretation, vol. 5, no.2. *Forensic Science Communications* 2003. <http://www.fbi.gov/hq/lab/fsc/backissu/april2003/index.htm>.

SWGDM. Interpretation guidelines for mitochondrial DNA analysis by forensic DNA testing laboratories. 2013. Available at http://swgdam.org/SWGDAM%20mtDNA_Interpretation_Guidelines_APPROVED_073013.pdf

Stewart JEB, Aagaard PJ, Pokorak EG, Polanskey D, Budowle B. Evaluation of a multicapillary electrophoresis instrument for mitochondrial DNA typing. *J Forensic Sci* 2003; 48: 571-580.

Wilson MR, DiZinno JA, Polanskey D, Replogle J, Budowle B. Validation of mitochondrial DNA sequencing for forensic casework analysis. *Int J Leg Med* 1995; 108: 68-74.

Wilson MR, Allard MW, Monson KL, Miller KWP, Budowle B. Recommendations for consistent treatment of length variants in the human mitochondrial DNA control region. *Forensic Sci Int* 2002; 129: 35-42.

Wilson, MR., Allard, MW, Monson, KL, Miller KWP, Budowle B. Further discussion of the consistent treatment of length variants in the human mitochondrial DNA control region, vol. 4, no.4. *Forensic Science Communications* 2002. <http://www.fbi.gov/hq/lab/fsc/backissu/oct2002/index.htm>.

ExoSAP-IT (PCR Product Clean-up)

Dugan, KA, Lawrence, HS, Hares, DR, Fisher, CL, Budowle, B. An improved method for post-PCR purification for mtDNA sequence analysis. *J Forensic Sci* 2002; 47:811-18.

PROTOCOLS FOR FORENSIC MITOCHONDRIAL DNA ANALYSIS

References		
Status:Published		Document ID: 1167
DATE EFFECTIVE 12/06/2016	APPROVED BY mtDNA Technial Leader	PAGE 3 OF 3

Agilent

Mueller, O, Hahnenberger K, Dittmann M, Yee H, Dubrow R, Nagle R, Ilsley D. A microfluidic system for high-speed reproducible DNA sizing and quantitation. *Electrophoresis* 2000; 21:128-134.

Mueller, O. High resolution DNA analysis with the DNA 500 and DNA 1000 LabChip® kits. Agilent Technologies publication 5988-3041E 2001. www.agilent.com/chem

Jensen, M. Use of the Agilent 2100 Bioanalyzer and the DNA 500 LabChip in the Analysis of PCR Amplified Mitochondrial DNA. Agilent Technologies publication 5989-0985EN 2004. www.agilent.com/chem

Bjerketorp J, Chiang ANT, Hjort K, Rosenquist M, Liu W-T, Jansson JK. Rapid lab-on-a-chip profiling of human gut bacteria. *J. Microbiol. Methods* 2008; 72: 82-90.