



Case 3043

November 11, 2010

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Re: *State of Texas v. Claude Howard Jones*, Mitochondrial DNA Analysis
Test Report for Mitotyping Technologies Case No. 3043

Items of Physical Evidence and Background

On October 26, 2010, Mitotyping Technologies, LLC received via hand delivery from Criminal Investigator David Clark of the San Jacinto District Attorney's Office the following items:

- 1) One evidence tape sealed plastic evidence/property bag labeled in part "Case No. L-203322 Item No. Exh. #77 Item #13" and "Description and/or Location: Hair from scene". The hair from the slide labeled "Hair from [coun]ter NP1 10-26-10 [init]", which was denoted by blue dots near the ends of the hair, was taken for testing, consumed due the length of ~2 cm, and designated 3043Q1.
- 2) One gum sealed plastic evidence/property bag labeled in part "Case No. L-203322 Item No. Exhibit #76" and "Description and/or Location: Exhibit #76, 76A, 76B, 76C". A 3 cm portion of one hair from this package was taken for testing and designated 3043K3. This was the known sample of Danny Dixon.
- 3) One gum sealed plastic evidence/property bag labeled in part "Case No. L-203322 Item No. Exhibit #75" and "Description and/or Location: Exhibit #75 75A-Arm Hair-Jones 75B-chest hair-Jones 75C-Head Hair-Jones 75D-Top Head Hair-Jones". A 2.5 cm portion of one hair from this package was taken for testing and designated 3043K2. This was the known sample from Claude Howard Jones.
- 4) One gum sealed plastic evidence/property bag labeled in part "Case No. L-203322 Item No. Exh #78 Items A,B+C" and "Description and/or Location: Exhibit #78

Item 78A, 78B, 78C, victim arm hair". A 3 cm portion of one hair from this package was taken for testing and designated 3043K1. This was the known sample from Allen Hilzendager.

It was requested that this laboratory develop a mitochondrial DNA profile from the questioned hair from the counter and compare it to the mitochondrial DNA profiles of Allen Hilzendager, Claude Howard Jones, and Danny Dixon to determine if these individuals could be excluded as the contributors of the questioned hair.

Mitochondrial DNA (mtDNA) Analysis

The 3043Q1 hair sample was analyzed before opening or handling the known samples. All samples were analyzed according to standard protocol. For each sample, a complete mitochondrial DNA profile was obtained, comprising nucleotide positions 15998-16400 (hypervariable region 1; HV1) and nucleotide positions 30-407 (hypervariable region 2; HV2). All reagent blank negative controls and PCR negatives that accompanied these samples remained free of contaminating DNA throughout testing. Table 1 shows the nucleotide substitutions with respect to the standard published reference sequence for the samples in this case.

Table 1. Case 3043: Nucleotide substitutions in HV1 and HV2 for samples 3043Q1, 3043K1, 3043K2, and 3043K3.

Sample	HV1			HV2					
	16239	16254	16311	152	189	263	309.1	309.2	315.1
Standard	C	A	T	T	A	A	--	--	--
3043Q1-hair from counter	T	G	.	C	.	G	.	.	C
3043K1-Hilzendager	T	G	.	C	.	G	.	.	C
3043K2-Jones	G	G	C*	.	C
3043K3-Dixon	.	.	C	.	.	G	C	C*	C

Table Notes: (--) means that at this position in the published reference (Standard, top line) there is no nucleotide and the sample has an insertion.

(.) means that the nucleotide at this position is the same as in the Standard.

(*) means that length heteroplasmy was observed in the homopolymeric C-stretch.

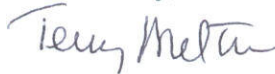
Interpretation of Results

The mitochondrial DNA profiles of 3043Q1 and 3043K1 are the same. Therefore, Allen Hilzendager and his maternal relatives cannot be excluded as the contributor of this questioned hair. Claude Howard Jones and Danny Dixon are excluded as the contributor of this questioned hair.

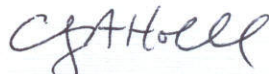
The SWGDAM database of human mitochondrial DNA sequences (The mtDNA Population Database: An Integrated Software and Database Resource for Forensic Comparison, Keith L. Monson, Kevin W. P. Miller, Mark R. Wilson, Joseph A. DiZinno, and Bruce Budowle, 2002, Forensic Science Communications, Vol. 4, No. 2) was searched for the sequence observed in the 3043Q1 and 3043K1 samples. This sequence has not been observed in the current database, which includes 4,839 sequences of North American forensic significance.

Please do not hesitate to contact our office if you have questions regarding this report. As the evidence was hand delivered, please contact our office to arrange for its return.

Sincerely,



Terry Melton, PhD
Laboratory Director
Forensic Examiner
Author



Charity A. Holland, MPH
Quality Manager
Forensic Examiner
Technical Reviewer

End of Report.