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TO FILE REHEARING MOTION
AND, IF FILED, DISPOSED OF.

IN THE DISTRICT COURT OF APPEAL
OF FLORIDA
THIRD DISTRICT
JULY TERM, A.D. 2001

JEAN LEMOUR,

**

Appellant,

**

vs.

**

CASE NO. 3D99-2948

THE STATE OF FLORIDA,

**

LOWER

Appellee.

**

TRIBUNAL NO. 95-9140

Opinion filed November 28, 2001.

An Appeal from the Circuit Court for Miami-Dade County,
Barbara Levenson, Judge.

Bennett H. Brummer, Public Defender, and Howard K.
Blumberg, Assistant Public Defender, for appellant.

Robert A. Butterworth, Attorney General, and Steven R.
Berger, Assistant Attorney General, for appellee.

Before JORGENSON, GODERICH and SHEVIN, JJ.

SHEVIN, Judge.

Jean Lemour appeals judgments of convictions for armed sexual battery, armed kidnapping, and armed burglary with an assault. We affirm.

The charges against Lemour arose from an incident involving three men who entered a home and committed the crimes of burglary, sexual battery, armed robbery and kidnaping. After Lemour was apprehended, the state tested DNA evidence samples obtained from Lemour and the victim N.A. Pursuant to a defense expert's suggestion, the state submitted the evidence to a different type of DNA testing, after a dispute arose as to the initial results; the defense did not agree on the selection of the particular lab. To analyze the samples, LabCorp, a DNA testing company, used an FTP-3 Short Tandem Repeat triplex¹ kit to determine whether Lemour could be excluded from the class that could have contributed to the sample obtained from victim N.A. LabCorp developed the kit; it is not available for commercial sale. The results showed that Lemour's DNA and the sperm fraction from the vaginal swab obtained from N.A. matched at all 6 loci tested. The

¹ A triplex analyzes three separate areas of DNA at the same time. After adding the DNA strand, primers are added which isolate the particular STR and multiply the three separate areas simultaneously.

likelihood of another person matching the 6 loci was one in 66 million African-Americans.

Pursuant to Lemour's motion to exclude the DNA evidence, the court conducted a Frye v. United States, 293 F. 1013 (D.C. Cir. 1923), hearing. Both the state and defendant presented expert testimony as to the DNA testing conducted by LabCorp. The trial court ruled that the evidence was admissible, and it was presented at trial. At trial, the state also introduced evidence as to Lemour's confession: Lemour admitted participating in the burglary but denied any involvement in the sexual batteries. Lemour, at trial, denied that he confessed or that he had any involvement in the crimes. Lemour was convicted of armed burglary, armed kidnaping, and armed sexual battery.²

On appeal, Lemour asserts that the state failed to establish that the LabCorp kit is generally accepted as a reliable method of DNA analysis.³ Lemour argues that the

² Lemour was tried with co-defendant Williams. This court affirmed Williams' convictions. Williams v. State, 787 So. 2d 865 (Fla. 3d DCA 2001). The third perpetrator was not apprehended.

³ Defendant does not challenge the results from two LabCorp tests of three other genetic markers, TPOX, THO-1, and D1S80. The tests using those markers showed that Lemour was in a class that could not be excluded from those who contributed the DNA found in the sperm fraction from the vaginal swab sample. TPOX, CSF and THO-1 were analyzed together in a CTT

forensic identification evidence is inadmissible as the LabCorp kit has not been subject to proper validation and peer review and the LabCorp internal validation study is insufficient. We disagree.

In Hayes v. State, 660 So. 2d 257, 264 (Fla. 1995), the Florida Supreme Court determined that properly conducted DNA analysis would satisfy the Frye test. See Murray v. State, 692 So. 2d 157, 161 (Fla. 1997). Thus, DNA test results are admissible if the proponent of such evidence presents proof that the methodology used is sufficiently established as having gained general acceptance in the scientific community. Such proof may include expert testimony, scientific and legal writings as well as judicial opinions. Hadden v. State, 690 So.2d 573, 578 (Fla.1997); E. I. DuPont De Nemours & Co. v. Castillo, 748 So. 2d 1108, 1115 (Fla. 3d DCA 2000), review granted, No. SC00-490 (Fla. Aug. 31, 2000).

As a preliminary matter, we note that Lemour does not challenge the admissibility of the Polymerase Chain Reaction [PCR] method of DNA analysis to amplify and copy a DNA

triplex; the D1S80, a variable tandem repeat, was analyzed independently. The objectionable test analyzed STRs--VWA, FES/FPS and CSF.

Lemour argues that if the latter three STRs were excluded, the odds of finding another person with the same profile would be significantly reduced.

segment: he concedes that the PCR method is generally accepted by the scientific community. See United States v. Trala, 162 F. Supp. 2d 336 (D.C. Del. 2001)(PCR process has received widespread court and scientific community acceptance); State v. Belken, 633 N.W.2d 786 (Iowa 2001)(PCR method is predominant DNA typing method) People v. Schreck, 22 P.2d 68, 80 N 15 (Col. 2001)(cases holding PCR testing admissible under Frye); The Evaluation of Forensic DNA Evidence at 23, 36 (1996)(National Research Council report finding that PCR "molecular technology is thoroughly sound and . . . the results are highly reproducible when appropriate quality-control methods are followed. . . .[and] PCR-based methods are prompt, require only a small amount of material, and can yield unambiguous identification of individual alleles")⁴.

In this case, LabCorp employed a distinct type of PCR-based testing: the PCR process was used to amplify short tandem repeats [STRs]. Short tandem repeats denote certain areas of DNA where repeat segments are found. A segment that repeats anywhere from two to seven bases is called an STR or STR section. Many courts have held that PCR⁵ analysis using STRs is

⁴ Lemour does not challenge the admission of evidence concerning random match probability.

⁵ There are three subtypes of PCR testing: DQ-Alpha, which tests a single genetic marker; Polymarker, which tests five genetic markers; and the Short Tandem Repeat (STR) which tests three or more genetic markers. People v. Hill, 107 Cal. Rptr. 2d 110, 117 (Ct. App. 2d 2001)

a scientifically valid and reliable forensic technique and is generally accepted in the scientific community.⁶ See State v. Butterfield, 27 P.3d 1133 (Utah 2001); Schreck, 22 P.3d at 80 n.16; Watts v. State, 733 So. 2d 214 (Miss. 1999); Commonwealth v. Rosier, 685 N.E.2d 739 (Mass. 1997); State v. Jackson, 582 N.W.2d 317 (Neb. 1988); State v. Champ, 2001 WL 273071 (Neb. App. March 20, 2001)(unpublished); People v. Brown, 110 Cal. Rptr. 2d 750 (Ct. App. 5th 2001); People v. Hill, 107 Cal. Rptr. 2d 110 (Ct. App. 2d 2001); State v. Rokita, 736 N.E.2d 205 (Ill. App. Ct. 5th 2000); People v. Allen, 85 Cal. Rptr. 2d 655 (Ct. App. 2d 1999); People v. Owens, 725 N.Y.S.2d 178 (N.Y. Sup. Ct. 2001). In reaching this conclusion, courts rely on relevant scientific and forensic literature including The National Research Council's report, The Evaluation of Forensic DNA Evidence.⁷ That report states that "[o]ne of the most promising of the newer [PCR] techniques involves amplification of loci containing Short Tandem Repeats," id. at 23, that STR

⁶ In Overton v. State, 26 Fla. L. Weekly S592 (Fla. Sept. 13, 2001), and Bedoya v. State, 779 So. 2d 574 (Fla. 5th DCA 2001), the trial courts admitted STR testing results. The opinions do not indicate whether Frye hearings were conducted. The Bedoya case involved testing by LabCorp.

⁷ The Florida Supreme Court views the NRC reports as authoritative sources on DNA forensic use. See Brim v. State, 695 So. 2d 268 (Fla. 1997); Murray, 692 So. 2d at 157; Henyard v. State, 689 So. 2d 239 (Fla. 1997); Hayes, 660 So. 2d at 257.

loci "appear to be particularly appropriate in forensic use[,] "id. at 117, and that "STRs can take their place along with VNTRs as forensic tools." Id. at 35. See Rosier, 685 N.E.2d at 739(noting that latter comment appears to recognize similarity of STR testing to RFLP⁸ or VNTR method); Trala, 162 F. Supp. 2d at 347-48(finding that PCR/STR profiling is generally accepted in the scientific community); Butterfield, 27 P.3d at 1133 (same). See also Schreck, 22 P.3d at 80(National Institute of Standards and Technology has recognized advantageous use of STRs in DNA testing). In addition, the NRC's conclusion is supported by "numerous studies published in both scientific and forensic journals which show widespread use of the STR technique in DNA analysis for human identification, paternity testing, and other basic research." Butterfield, 27 P.3d at 1142. Here, Dr. Tracey, a DNA expert, testified as to the general acceptance of STR testing, stating that he has testified in several Frye hearings as to the acceptance of PCR/STR testing including testing using the STRs at issue. Dr. Clement, a LabCorp associate director,⁹ also testified that the

⁸ The Florida Supreme Court has held that results obtained using RFLP method are admissible. Hayes, 660 So. 2d at 257.

⁹ Lemour also contends that Clement's vested interest in the evidence's admissibility greatly detracts from her opinion that the testing is generally accepted in the scientific community. Her interest, vel non, goes to the weight not the

tests were conducted in a generally scientific manner and reports involving the STRs at issue were admitted as evidence in courts. See Rosier, 685 N.E.2d at 742-43. Thus, we conclude that the PCR/STR method is established as generally accepted by the relevant scientific community.

The STRs in this case were analyzed in a triplex test, a non-commercial kit developed by LabCorp. The record shows that the STRs used by LabCorp¹⁰ have been subject to validation and peer review by the scientific community for forensic use. The state presented expert testimony, and the defense expert agreed, that these markers have been subject to validation studies, that other labs have used these markers, and that scientific literature justifies the use of these markers. Thus, it is undisputed that the STRs used in this case are valid markers. Furthermore, the state presented expert testimony addressing Lemour's assertion that the simultaneous

admissibility of the evidence. See Andrews v. State, 533 So. 2d 841, 849 n. 9(Fla. 5th DCA 1988)("Neither Frye nor our evidence code require [expert's] impartiality."), abrogated on other grounds, Hadden v. State, 690 So. 2d 573 (Fla. 1997).

¹⁰ LabCorp is accredited by the College of American Pathologists as well as the American Society of Crime Laboratory Directors, Laboratory Accreditation Board. The boards review the lab's studies to make sure that it performed validation that permits the lab to use the tests for case work. Pursuant to Fla. R. Crim. P. 3.853(postconviction DNA testing), a court, upon a showing of good cause, may order testing done by a lab certified by the ASCD/LAB.

amplification of the STRs is problematic. Dr. Tracey testified that the STRs selected have been tested to insure that the STRs do not overlap so that one result won't hide another, i.e., to prevent the markers from interfering with each other in testing.

In a triplex test, the system amplifies three STRs at one time using the same sample. Specifically, "[m]ultiplex systems add more than one set of PCR primers to a reaction so as to be able to amplify several loci together and run them simultaneously." Schreck, 22 P.3d at 71. Triplex systems have been in use for many years, id., and are generally accepted in the scientific community. Id. at 81. The 1996 NRC report recognizes that "it has proved possible to co-amplify STRs at multiple loci, allowing significant increases in the speed of test processing[, and that as] more STRs are developed, this system is coming into wide use." Id. at 70-71. Furthermore, the National Institute of Standards and Technology [NIST] website reflects that "multiplex STRs are used extensively in the forensic field, [and] NIST has concluded that "multiplex [testing] . . . is an ideal technique for DNA typing. . . ." Id. at 80. Finally, as conceded by defendant at oral argument, several courts have admitted evidence obtained from PCR/STR multiplex systems. Trala, 162 F. Supp. 2d at 336; Schreck, 22

P.3d at 68; Butterfield, 27 P.3d at 1133; Watts, 733 So. 2d at 214; Rosier, 685 N.E.2d at 739.

Lemour argues, however, that the LabCorp kit presents a new or different methodology and its results may only be admitted if it has gained general acceptance in the scientific community. This argument has been rejected in Hill, 107 Cal. Rptr. 2d at 110. The Hill court held that each new PCR/STR test kit is not, as a matter of law, subject to a Frye analysis to determine scientific reliability. It stated that issues as to result reliability do not "implicate the reliability or general scientific acceptance of the principles on which the tests are based." Id. at 116. The court noted that, as both the PCR and STR methods are accepted in the scientific community, "the case does not involve test methodology that "the scientific community view[s] as 'experimental or of dubious validity'." Id. See Schreck, 22 P.3d at 81; and cited trial court cases; State v. Russell, 882 P.2d 747, 768 (Wash. 1994)(kit not subject to Frye as it is simply one tool for carrying out generally accepted PCR methodology), cert. denied, 514 U.S. 1129 (1995); Trala, 162 F. Supp. 2d at 346 ("kits do not represent separate part of the typing process, but rather, simply contain materials for beginning of the PCR process"). See also State v. Gore, 21 P.3d 262 (Wash. 2001)(unnecessary to

hold Frye hearing each time new loci are tested where PCR techniques already ruled admissible). Therefore, we hold that the test kit does not present a new scientific technique where, as here, it uses PCR/STR testing methods that are generally accepted by the scientific community.

Finally, we hold that the failure to follow the Technical Working Group on DNA Analysis Methods [TWGDAM] guidelines as to developmental validation do not render the DNA evidence inadmissible. Those guidelines recommend release of LabCorp's validation data to the general scientific community. As the Hill court noted, the TWGDAM guidelines are advisory and have been superceded by the DNA Advisory Board [DAB] recommendations. See United States v. Shea, 957 F. Supp. 331, 339 n. 22 (D.C. N.H. 1997)(FBI must follow TWGDAM guidelines until DAB presents quality assurance standards), affirmed, 159 F.3d 37 (1st Cir. 1998). The DAB recommendations do not require that "scientists developing new DNA technologies publish developmental validation¹¹ studies in peer reviewed scientific journals." Hill, 107 Cal. Rptr. 2d at 118. The testifying experts acknowledged that the TWGDAM guidelines are

¹¹ As described in Hill, 107 Cal. Rptr. 2d at 116, developmental validation is a method of testing the reliability of a new scientific method that is then submitted to the scientific community for feedback.

advisory and there are no validation guidelines promulgated by the DAB.

Here, the evidence shows that the results obtained from the LabCorp kit were reliable. This triplex kit has been subject to successful proficiency tests at LabCorp, as well as at two outside testing agencies. The state also presented testimony that the protocol used was scientifically acceptable and there was no basis not to admit the test results. Finally, LabCorp's in-house validation study demonstrated that it obtained reliable results for the triplex at issue. As the Hill court noted, validation studies may be done by the manufacturer, i.e. LabCorp. Id. The LabCorp study was made available for peer review in poster format at the American Academy of Forensic Sciences and at the International Symposium on Human Identification symposia. Expert testimony concluded that the study was reliable and that it was done in a generally accepted scientific fashion. As to Lemour's objection to the study's format, Lemour's defense expert conceded that such studies are not done to produce a peer review article about the use of such markers; their purpose is to show that the lab obtained "good results." Accordingly, the evidence as to results obtained was reliable and the study was adequate to establish its validity.

In summary, we hold that the PCR/STR triplexing method is generally accepted by the scientific community, the particular test kit used does not have to be Frye tested, the evidence obtained from that kit was reliable, and that the failure to follow TWGDAM recommendations as to developmental validation does not render DNA test results inadmissible. Accordingly, the trial court properly admitted the DNA test results, and we affirm the judgment of convictions.

Affirmed.