Illinois Official Reports

Appellate Court

***People v. Zapata*, 2014 IL App (2d) 120825**

Appellate Court Caption	THE PEOPLE OF THE STATE OF ILLINOIS, Plaintiff-Appellee, v. RODOLFO ZAPATA, Defendant-Appellant.
District & No.	Second District Docket No. 2-12-0825
Filed	April 15, 2014
Held (*Note: This syllabus constitutes no part of the opinion of the court but has been prepared by the Reporter of Decisions for the convenience of the reader.*)	Defendant's conviction for criminal sexual assault was upheld on appeal over his contention that under the plain-error rule, the trial court erred in admitting testimony about Y-STR analysis of DNA found on complainant's underwear without a *Frye* hearing to determine whether the methodology or scientific principle involved was sufficiently established to have gained general acceptance, since a *Frye* hearing was unnecessary in view of the unequivocal and undisputed prior judicial decisions and technical writings on the subject.
Decision Under Review	Appeal from the Circuit Court of Kendall County, No. 11-CF-28; the Hon. John A. Barsanti, Judge, presiding.
Judgment	Affirmed.
Counsel on Appeal	Thomas A. Lilien and Barbara R. Paschen, both of State Appellate Defender's Office, of Elgin, for appellant. Eric C. Weis, State's Attorney, of Yorkville (Lawrence M. Bauer and Marshall M. Stevens, both of State's Attorneys Appellate Prosecutor's Office, of counsel), for the People.

Panel PRESIDING JUSTICE BURKE delivered the judgment of the court, with opinion.
Justices McLaren and Hudson concurred in the judgment and opinion.

OPINION

¶ 1 Following a jury trial in the circuit court of Kendall County, defendant, Rodolfo Zapata, was found guilty of criminal sexual assault (720 ILCS 5/12-13(a)(2) (West 2010)) and was sentenced to an eight-year prison term. On appeal, defendant argues that it was error to admit testimony about Y-STR analysis of a specimen of DNA found on the complaining witness's underwear. We affirm.

¶ 2 At trial, the State presented evidence that on June 27, 2010, the complaining witness, Corinne M., and her friend, Pedro Garcia, were drinking at a bar in Yorkville with a group of people that included, among others, defendant, Lino Garcia, and Chris Garcia. Lino and Chris Garcia were brothers and defendant was their cousin on their mother's side. Pedro was not related to Lino and Chris. Corinne testified that she drank beer and shots of Red Bull and some type of liquor. After the bar closed, the group went to a house in Yorkville where Lino, Chris, and defendant resided. The group continued to drink, played cards, and socialized. Corinne and Pedro planned to sleep over at the house that night, and Corinne borrowed a pair of shorts to sleep in. After changing into the shorts, Corinne joined Pedro, Lino, and defendant in the family room. At some point, Lino and defendant left to go to bed. Corinne and Pedro stayed up talking and playing cards. They also continued drinking. Corinne testified that she started to feel dizzy after having some wine. She went into the bathroom and threw up into the toilet. She then lay down on the bathroom floor and fell asleep.

¶ 3 Corinne testified that, when she awoke, she felt someone's penis in her vagina. She observed that defendant was "spooning" her. Her shorts and underwear had been pulled down. She started yelling at defendant and he ran out of the bathroom. Lino and Pedro woke up and Lino helped Corinne look for defendant in the house. Corinne testified that she did not find defendant. Corinne took a shower, and Pedro then drove her to the emergency room at an Aurora hospital. When Corinne got dressed after her shower, she did not put on the pair of underwear she had been wearing when the sexual assault occurred. She took that pair of underwear to the hospital and it was preserved for forensic analysis.

¶ 4 At the hospital, a rape kit was performed. William Enselme, a forensic scientist employed by the Illinois State Police, testified that he tested vaginal, oral, and rectal swabs collected in the rape kit for the presence of semen and saliva. The tests were negative for both substances. Enselme visually examined head and pubic hair combings, but found nothing that would warrant further analysis. He noted "spec[k]s of debris" on scrapings from underneath Corinne's fingernails. Enselme also examined Corinne's underwear. He noted that the crotch area was stained with a slightly yellowish substance. The stain measured 5½ inches long by 1 inch wide. Tests performed on the substance indicated (but did not confirm) the presence of semen. Enselme did not detect sperm in the substance.

¶ 5 Two other forensic scientists employed by the Illinois State Police–Lyle Boicken and Katherine Sullivan–testified about DNA testing performed on the substance found on Corinne's underwear. Boicken testified that the specimen of the substance was not suitable polymerase chain reaction short tandem repeat (PCR-STR) analysis. PCR-STR analysis generates a DNA profile based on short tandem repeats. Boicken testified that short tandem repeats are "short segments of DNA which are repeated in different individuals." Boicken explained that the sequence "ACTG"[1] might repeat 10 times at a particular location in one individual's DNA and 15 times at the same location in the DNA of another individual. By determining the number of repeats at a number of different loci, a profile can be compiled. Boicken testified that 14 to 16 loci are used, if possible. However, in order to be suitable for PCR-STR analysis, a specimen must contain either a certain amount of DNA or a certain ratio of male DNA to female DNA. When a specimen does not meet the applicable criteria for PCR-STR analysis, a different type of analysis–Y-STR–might be possible. According to Boicken, the specimen in this case was suitable for Y-STR analysis.

¶ 6 Sullivan testified that she performed a Y-STR analysis on the specimen from Corinne's underwear. She described the Y-STR analysis as "short tandem repeat or STR testing that's done exclusively on sites on just the Y chromosome." Asked how the "Y chromosome or Y-STR differ[s] from male to male," Sullivan responded that "it would be expected to differ from male to male except in cases where the individuals are paternally related." Sullivan explained that "[b]ecause the Y chromosome is passed in its entirety from father to son, I would expect that any male would have the same Y-STR profile as his father, any of his brothers from the same father, and so on through the family tree." She further explained that the profile developed by determining the number of repeats at each tested Y chromosome locus describes a haplotype. Sullivan's testimony indicated that detection of more than one haplotype in a given specimen could occur when the specimen contains the DNA of more than one male or where, due to a genetic anomaly, the DNA of a female contributor to the specimen contains Y chromosomes.

¶ 7 According to Sullivan, Y-STR testing on the DNA specimen from Corinne's underwear indicated the presence of a single haplotype. Sullivan also performed Y-STR testing on a sample of Corinne's blood. As Sullivan expected, the testing indicated "no Y-STR haplotype results at all." Sullivan also performed Y-STR testing on DNA from a buccal swab performed on defendant. The test indicated a single haplotype, which matched the haplotype identified in the test performed on the specimen from Corinne's underwear. Sullivan's direct testimony concluded with the following exchange:

> "Q. Was the defendant therefore included or excluded from contributing his DNA to the stain in [Corinne's underwear]?
>
> A. He would be included.
>
> Q. He was not excluded?
>
> A. That's correct."

¶ 8 Defendant's sole argument on appeal is that, before permitting the State to offer testimony about the results of the Y-STR test conducted on a DNA specimen from the

[1]These letters refer to the different nucleotides–adenine, cytosine, thymine, and guanine–that link together sequentially to form a strand of DNA. See *People v. Williams*, 238 Ill. 2d 125, 130 n.1 (2010), *aff'd sub nom. Williams v. Illinois*, 567 U.S. ___, 132 S. Ct. 2221 (2012).

victim's panties, the trial court was obligated to conduct a hearing to determine whether the testimony satisfied the test set forth in *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923), which governs the admissibility of new or novel scientific evidence in Illinois. See Ill. R. Evid. 702 (eff. Jan. 1, 2011). Pursuant to *Frye*, a witness may offer an opinion based on such evidence "only if the methodology or scientific principle upon which the opinion is based is 'sufficiently established to have gained general acceptance in the particular field in which it belongs.' " *In re Commitment of Simons*, 213 Ill. 2d 523, 529-30 (2004) (quoting *Frye*, 293 F. at 1014).

¶ 9 Defendant acknowledges that, because he did not object at trial to the admissibility of the testimony or raise the issue in his posttrial motion, he has forfeited review of the issue that he now raises on appeal. See *People v. Enoch*, 122 Ill. 2d 176, 186 (1988) (objection both at trial and in a posttrial motion required to preserve an issue for appeal). Defendant contends, however, that the issue is reviewable under the plain-error rule. The plain-error rule permits appellate review, notwithstanding forfeiture, where "(1) a clear or obvious error occurred and the evidence is so closely balanced that the error alone threatened to tip the scales of justice against the defendant; or (2) a clear or obvious error occurred, and the error is so serious that it affected the fairness of the defendant's trial and the integrity of the judicial process, regardless of the closeness of the evidence." *In re Jonathon C.B.*, 2011 IL 107750, ¶ 70. "[I]n addressing a plain-error argument, this court first considers whether error occurred at all." *Id.* As explained below, we conclude that a *Frye* hearing to determine whether Y-STR testing has gained general acceptance was not necessary. Accordingly no error occurred.

¶ 10 Our supreme court has held that "[a] court may determine the general acceptance of a scientific principle or methodology in either of two ways: (1) based on the results of a *Frye* hearing; *or* (2) by taking judicial notice of unequivocal and undisputed prior judicial decisions or technical writings on the subject." (Emphasis added.) *People v. McKown*, 226 Ill. 2d 245, 254 (2007). The question of whether evidence is admissible under *Frye* is subject to *de novo* review. Furthermore, "[i]n conducting such *de novo* review, the reviewing court may consider not only the trial court record but also, where appropriate, sources outside the record, including legal and scientific articles, as well as court opinions from other jurisdictions." *Simons*, 213 Ill. 2d at 531.

¶ 11 Before proceeding, a brief overview of DNA profiling techniques is in order. In *People v. Barker*, 403 Ill. App. 3d 515, 527-28 (2010), the court observed as follows:

> "In its earliest form, DNA forensic technology focused on those parts of the DNA molecule where there is a significant variation of base pair patterns. [Citation.] Over the years, the technology evolved and now focuses on a class of polymorphisms in DNA called 'short tandem repeats' (STRs), which are shorter in base pair length. STRs are readily amplified by a process known as 'polymerase chain reacion' [*sic*] (PCR) technology. The number of repeats in STR markers can be highly variable among individuals, which make them particularly desirable for identification determinations. [Citation.] The current technology of STRs focuses on the small noncoding regions of the DNA molecule. The number of repeats of a specific STR sequence present at a given locus, combined over a designated number of loci, creates a unique DNA 'profile' of an individual. [Citation.]
>
> ***

> Y-STR testing examines the Y chromosome that passed from father to son. Y-STRs are short repeats found solely in the male-specific Y chromosome that code for male sex determination, spermatogenesis, and other male-related functions. 'The technique was developed in part to identify a male contributor or contributors in cases of sexual assault, where DNA from both the female and male[ ] is present in a vaginal swab.' [Citation.]"

¶ 12 In *Barker*, the defendant, who had been convicted of first-degree murder and aggravated criminal sexual assault, later petitioned the trial court to order DNA testing. The defendant asked for three types of tests to be performed: short tandem repeat (STR), polymerase chain reaction (PCR), and restriction fragment length polymorphism (RFLP). *Id.* at 521-22. On appeal from the denial of the request, the defendant additionally asked for Y-STR and mitochondrial DNA testing. *Id.* at 524. In the course of its analysis, the *Barker* court quoted one commentator's observation that Y-STR testing has " 'received mixed responses judicially in terms of its admissibility at trial' " (*id.* at 528 (quoting Jules Epstein, *"Genetic Surveillance"–The Bogeyman Response to Familial DNA Investigations*, 2009 U. Ill. J.L. Tech. & Pol'y 141, 148)). However, the only negative judicial response cited by that commentator was an unpublished decision of Minnesota's court of appeals holding that the trial testimony of the forensic scientist who conducted Y-STR testing was insufficient to establish general acceptance of the methodology. Epstein, *supra* at 148 n.58 (citing *Yeboah v. State*, No. A07-0739, 2008 WL 2020449, at *1 (Minn. Ct. App. Aug. 5, 2009)). The Minnesota court did not draw any ultimate conclusion about whether Y-STR analysis is generally accepted.

¶ 13 In the present case, although defendant notes the *Barker* court's somewhat oblique suggestion that Y-STR testing is controversial, he completely ignores the *Barker* court's more salient observation that "defendant's trial took place in March of 2005, at which point all three of the DNA procedures requested in defendant's original motion, *plus the two tests he now requests on appeal*, had been judicially recognized as generally accepted by the relevant scientific community." (Emphasis added.) *Barker*, 403 Ill. App. 3d at 525. As noted, the Y-STR test was one of the two additional tests that the defendant in *Barker* requested on appeal.

¶ 14 A recent decision from the California Court of Appeal, *People v. Stevey*, 148 Cal. Rptr. 3d 1, 9-11 (Cal. Ct. App. 2012), confirms that Y-STR testing has gained general acceptance:

> "Although Y-STR testing *** [has] been generally accepted by the scientific community as reported by courts across the country, defendant contends the trial court erred by refusing to hold an evidentiary hearing to establish that Y-STR testing is generally accepted. (See, e.g., *State v. Calleia* (2010) 414 N.J. Super. 125, 148-149, 997 A.2d 1051 (*Calleia*), reversed on other grounds in *State v. Calleia* (2011) 206 N.J. 274, 20 A.3d 402; *Curtis v. State* (2006) 205 S.W.3d 656, 660-661 (*Curtis*); *State v. Murray* (2008) 285 Kan. 503, 512-514, 174 P.3d 407; *State v. Lee* (2007) 964 So. 2d 967, 983; *Wagner v. State* (2005) 160 Md. App. 531, 547-548, 864 A.2d 1037 (*Wagner*); *People v. Klinger* (2000) 185 Misc. 2d 574, 580-581, 713 N.Y.S.2d 823 (*Klinger*).) He is mistaken. Y-STR testing does not embrace new scientific techniques. [Citation.]

'[T]he use of polymerase chain reaction and short tandem repeats technology to analyze a mixed-source forensic sample is neither a new or novel technique or methodology.' [Citations.] ***

Recent cases in New Jersey and Washington are particularly helpful in understanding the basic science, the similarity between PCR/STR and Y-STR testing, and the scientific response to Y-STR testing. In *Calleia*, *supra*, 997 A.2d 1051, the court explained: 'The analytical procedure followed in Y-STR DNA testing is identical to that followed in autosomal STR DNA testing. The sample is extracted in the same manner, amplified by the PCR method, tagged with a primer, and detected in the genetic analyzer. The data is collected and represented in exactly the same way. The only procedural distinction is that the primer included in the test kit for Y-STR DNA analysis contains markers for the Y-STR loci specified by SWGDAM [a scientific advisory board]; the primer included in the test kit for autosomal STR DNA analysis contains markers for loci on all twenty-three chromosome pairs. The major difference between autosomal STR DNA analysis and Y-STR DNA analysis is in the interpretation and application of the test results.' [Citation.]

The similarity between PCR/STR testing and Y-STR testing was also observed in *State v. Bander* (2009) 150 Wash. App. 690, 208 P.3d 1242 (*Bander*). 'ReliaGene used a PCR-based process known as YSTR testing to type the DNA samples it tested. YSTR amplification is essentially the same as the PCR-STR process that [the state crime lab DNA analyst] used, except that it permits the analysis of only male DNA in a mixed-source sample that also contains DNA from a female contributor.' [Citation.]

* * *

Most importantly for our purposes, it was 'established that Y-STR DNA analysis is a "non-experimental, demonstrable technique" that is widely accepted by forensic scientists.' [Citation.] The [*Calleia*] court concluded that 'there is a general acceptance of Y-STR DNA analysis in the scientific community.' [Citation.] Similarly, in *Curtis* [citation], the appellate court affirmed the trial court's finding that 'the YSTR methodology had been validated "internally and externally" and subjected to peer review, that it was generally accepted in the scientific community, and that the YSTR evidence was reliable and relevant.' [Citation.]"

¶ 15 Defendant cautions us against reliance on the principal cases that the *Stevey* court cited in the above excerpt: *Bander* and *Calleia*. Defendant questions the significance of the *Bander* court's observation that Y-STR analysis is "essentially the same" as the PCR-STR process, except that Y-STR analysis permits isolation of male DNA in a mixed source sample. *Bander*, 208 P.3d at 1246. According to defendant, that observation "[raises] many questions, the most basic of which is 'How (and why) does Y-STR permit a different analysis from PCR-STR.' " The argument is meritless. The *Bander* court explained that "[t]he DNA segments that are the focus of YSTR testing are inherited as a block through an individual's paternal lineage." *Id.* According to *Bander*:

"This block is known as a haplotype–'a set of closely linked genetic markers present on one chromosome which tend to be inherited together.' National Forensic Science Technology Center, *President's DNA Initiative: DNA Analyst Training Glossary*, http:// www.nfstc.org/pdi/glossary.htm#H (last visited May 12, 2009). All men in the

> same paternal lineage have the same DNA profile at these markers on their Y chromosomes." *Id.*

In other words, Y-STR testing enables a DNA analyst to determine whether a known male whose DNA has been profiled can be *excluded* as the source of Y chromosomes in a specimen consisting of a mixture of DNA from a female source and an unknown male source.

¶ 16 With respect to *Calleia*, defendant argues that, because a *Frye* hearing was held in that case, the *Calleia* court's determination that Y-STR testing satisfies the general acceptance test is not authority that we may dispense with a *Frye* hearing in this case. As discussed, however, under Illinois law, general acceptance of a given type of scientific evidence need not be litigated separately in each case in which the evidence is offered. Moreover, given the considerable additional support (as described above) for the proposition that Y-STR testing has gained general acceptance in the relevant field, we need not decide whether *Calleia*, by itself, would be sufficient authority for admission of Y-STR test evidence in an Illinois court.

¶ 17 For the foregoing reasons, the judgment of the circuit court of Kendall County is affirmed.

¶ 18 Affirmed.