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ARKANSAS COURT OF APPEALS

DIVISION II
No. CR-18-483

JOHN BRITT

APPELLANT

V.

STATE OF ARKANSAS

APPELLEE

Opinion Delivered: March 6, 2019

APPEAL FROM THE BENTON
COUNTY CIRCUIT COURT
[NO. 04CR-16-2178]

HONORABLE BRAD KARREN, JUDGE

AFFIRMED

BART F. VIRDEN, Judge

A Benton County jury convicted appellant John Britt of raping his teenage daughter, and he was sentenced to forty years in the Arkansas Department of Correction. On appeal, Britt argues that the trial court erred in admitting expert testimony on Y-STR¹ DNA testing because it does not comport with the standards set forth in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), and that the trial court’s admission of such evidence violated Arkansas Rule of Evidence 702. We affirm.

I. *Procedural History*

On January 30, 2017, Britt was charged with one count of rape, a Class Y felony. A rape kit was performed, and DNA material from the victim’s body and clothing was submitted for testing by the Arkansas State Crime Laboratory. When the lab did not detect

¹“Y-STR” means short tandem repeat of the Y chromosome.

enough male DNA on the samples taken from the victim to perform autosomal DNA testing—the more common method that produces a profile that is unique to an individual—the lab performed Y-STR testing, which amplifies the male Y chromosome and excludes those men who do not share the same paternal lineage. While Y-STR testing cannot identify the source of DNA material, it can exclude those other than the individual donor or that individual's father, grandfather, son, etc.

Autosomal DNA testing was performed on a known sample from Britt to create a profile, K02, which was then compared to the samples from the victim that had been tested through Y-STR. Only a partial profile was obtained from the sample of material taken from the victim's vagina, Q01, but it was compared to, and was consistent with, Britt's profile; the frequency of occurrence in the statistical population was 1 in 207; and the probability of exclusion was 99.52 percent. A complete profile was obtained from the sample of material taken from the victim's pants, Q07. It was compared to, and was also consistent with, Britt's profile; the frequency of occurrence in the statistical population was 1 in 1,157; and the probability of exclusion was 99.91 percent.

Before trial, Britt filed a motion requesting a *Daubert* hearing to challenge the admission of expert testimony regarding Y-STR testing. The State did not file a written response to Britt's motion. The trial court granted Britt's motion and held a hearing on August 18, 2017. Britt presented the testimony of Mary Robinette, a retired chemist who had worked for seventeen years at the Arkansas State Crime Laboratory. Julie Butler, the State's witness, is the DNA analyst who conducted the Y-STR testing of the samples from

the victim. Although Butler was present at the *Daubert* hearing, the State did not call her to testify but did cross-examine Robinette.

Robinette testified that Y-STR testing plays “a great role” in forensics and that it is especially helpful with missing persons and with male-female “mixture” cases. She said that, although Y-STR evidence cannot identify a person, it can place a person in “a pool of possibilities.” Robinette stated that she had testified regarding Y-STR testing probably fifty times. She expressed concern in this case about potential cross-contamination because the process had been “rushed,” confusion as to why some numbers did not match up, and uncertainty whether the Arkansas State Crime Laboratory still uses the “national database.” On cross-examination by the State, Robinette described Y-STR testing as valid, legitimate science that she has used “numerous times.” She said that it is reliable, repeatable, quantifiable, and widely used in the scientific community, especially forensics. She said that she has never expressed any concerns that the national database was insufficient such that it would call into question the validity of results. As for cross-contamination, she conceded that she did not know whether it had occurred in this case.

During the hearing, the trial court noted that the defense’s argument appeared to pertain more to the weight of the evidence, and not its admissibility under *Daubert* and Rule 702. The trial court also remarked that it was clear that Y-STR testing is not “voodoo science.” In its order denying Britt’s motion to exclude expert testimony on Y-STR testing, the trial court found that Y-STR evidence is reliable, that it is widely accepted in court, that it is highly probative, and that expert testimony on the subject could be helpful to a jury.

At trial, Butler testified that she is a forensic DNA analyst at the Arkansas State Crime Laboratory with twenty years' experience.² She said that she stays up to date with DNA technology and techniques; for example, she attends regularly scheduled training, reviews literature, and undergoes semiannual proficiency testing. As for standards, she said that there are "quite a number of steps taken" to avoid cross-contamination. She also testified that there are quality-assurance rules in place. Butler said that Y-STR testing is "extremely useful" for excluding people but that it does not have the "same statistical power" as with autosomal DNA testing. She further confirmed that the crime lab indeed uses the national database and testified that the statistical numbers are "not just generated out of thin air." She said that an organization called Scientific Working Group on DNA Analysis Methods (SWGDM) makes recommendations for the best practice in DNA testing and that the organization, comprised of approximately fifty scientists, recommended that the Arkansas State Crime Laboratory use the national database. Butler explained that there is not a database in which the DNA for everyone who has ever lived or is living has been compiled but that the statistical method is used by the scientific community. She said,

²Because the trial court's decision at a *Daubert* pretrial hearing is only a "preliminary assessment," we do not feel constrained to consider only Robinette's testimony in deciding whether the trial court erred in admitting expert testimony on the subject of Y-STR testing. Cf. *Conagra, Inc. v. Strother*, 340 Ark. 672, 13 S.W.3d 150 (2000) (recognizing that a trial court's initial ruling on a motion in limine is a threshold ruling subject to reconsideration and change as the evidence is more fully developed at trial); *Hignite v. State*, 265 Ark. 866, 581 S.W.2d 552 (1979) (noting that appellate courts consider the entire record on review of whether a statement or confession was voluntary because later testimony at trial may show that there was no prejudicial error committed by the trial court in its original ruling at the *Denno* hearing because the later testimony at trial showed beyond question that the statement or confession was voluntary).

“That is how all of this DNA science works whether we’re talking about autosomal DNA or Y-STR DNA.” She said that the database is used by forensic scientists all over the world and that it has been studied, analyzed, “picked apart,” and tested and that it is the best methodology available for forensic scientists.

At the conclusion of all the evidence, the jury convicted Britt of rape, and he was sentenced to forty years’ imprisonment. He brings this appeal challenging the admission of expert testimony on Y-STR testing.

II. Discussion

As a preliminary matter, the State asserts that no *Daubert* analysis was necessary here because there is no novel scientific evidence involved. See *Graftenreed v. Seabaugh*, 100 Ark. App. 364, 268 S.W.3d 905 (2007) (noting that the *Daubert* factors apply only to “novel” evidence, theory, or methodology). The State cites *Moore v. State*, 323 Ark. 529, 915 S.W.2d 284 (1996), which held that DNA-profiling evidence should no longer be viewed as novel scientific evidence requiring a preliminary inquiry beyond the showing that the expert properly performed a reliable methodology in creating the DNA profiles. See also *Scott v. State*, 372 Ark. 587, 279 S.W.3d 66 (2008) (citing *Moore*, *supra*). Although the State may be correct in asserting that Y-STR testing is not novel evidence, the State appears to be conflating different types of DNA evidence. Our understanding of *Moore* is that it involved the more commonly known autosomal DNA testing, which is different from the newer Y-

STR testing.³ Accordingly, we are not prepared at this time—and under the facts and circumstances of this particular case—to hold that Y-STR testing is not novel such that no *Daubert* analysis is necessary. We turn now to Britt’s arguments on appeal.

First, Britt argues that the trial court erred in permitting expert testimony regarding Y-STR testing and its related probabilities in violation of Arkansas Rule of Evidence 702. Rule 702 provides that if scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise. If some reasonable basis exists whereby the trial court may determine that the witness has knowledge of the subject beyond that of ordinary knowledge, and his or her expert testimony will assist the trier of fact in understanding the evidence presented or in determining a fact in issue, the trial court must qualify the witness as an expert and admit his or her testimony. *Fowler v. State*, 2011 Ark. App. 70. Additionally, the expert testimony must be relevant and not misleading or confusing to the jury. *Id.* There is a decided tendency to permit the fact-finder to hear the testimony of persons having superior knowledge in the given field unless they are clearly lacking in training and experience. *Id.* We review a trial court’s decision to qualify a witness as an expert in a particular field under an abuse-of-discretion standard. *Id.* Here, Butler testified extensively about her experience and training and her familiarity with the methodology of

³There is some indication in our case law that Y-STR testing has been around since approximately 2007, *see, e.g., Carter v. State*, 2015 Ark. 57, 536 S.W.3d 123, but no such testimony was elicited during the course of this case.

Y-STR testing. We cannot say that the trial court abused its discretion in admitting her expert testimony on the subject pursuant to Rule 702.

Next, Britt argues that the Y-STR evidence does not comport with the *Daubert* standards. Our supreme court has adopted the United States Supreme Court's interpretation in *Daubert* of Federal Rule of Evidence 702. See *Coca-Cola Bottling Co. v. Gill*, 352 Ark. 240, 100 S.W.3d 715 (2003); *Farm Bureau Mut. Ins. Co. of Ark., Inc. v. Foote*, 341 Ark. 105, 14 S.W.3d 512 (2000). Under *Daubert*, the trial court must make a preliminary assessment of whether the reasoning or methodology underlying expert testimony is valid and whether the reasoning and methodology used by the expert has been properly applied to the facts in the case. A key consideration is whether the scientific theory or techniques can be or have been tested. *Dundee v. Horton*, 2015 Ark. App. 690, 477 S.W.3d 558. Other considerations include whether it has been subjected to peer review and publication, what is the known or potential rate of error, and the existence and maintenance of standards controlling the technique's operation. *Id.* Also, whether the scientific community has generally accepted the theory can have a bearing on the inquiry. *Id.* The abuse-of-discretion standard is applicable to an appeal from a trial court's ruling on the scientific validity underpinning expert opinion. *Richardson v. Union Pac. R.R. Co.*, 2011 Ark. App. 562, 386 S.W.3d 77.

Specifically, Britt maintains that the State had the burden of establishing the admissibility of the Y-STR evidence but that the State showed only that such testing is generally accepted in the scientific community. Britt further asserts that the State did not

offer evidence of the other *Daubert* factors as was done in *Northern v. State*, 2015 Ark. App. 426, 467 S.W.3d 755.

The appellant in *Northern* argued that the trial court should have excluded a firearm-and-toolmark examiner's expert testimony that bullets found in the victim's head had been fired from the appellant's gun. At the pretrial hearing, the appellant had challenged the State's expert by referencing each of the *Daubert* factors. The expert used a PowerPoint presentation explaining how the science satisfied *Daubert*. The appellant then introduced into evidence the PowerPoint presentation in paper form but later argued on appeal that the State had failed to introduce any "material evidence" of the *Daubert* factors, i.e., the actual tests, studies, manuals, peer-review publications, and standards. This court rejected the appellant's assertion that the testimony violated Rule 702 and *Daubert*, and we refused to consider his argument that the State failed to produce any material evidence on each of the *Daubert* factors because the argument had not been raised below.

Here, Britt did not argue the *Daubert* factors below. Although he cited *Daubert* in his motion requesting a hearing, he did not otherwise reference the factors in his motion or at the hearing. His motion and arguments at the pretrial hearing raised concerns involving the weight of the evidence, as pointed out by the trial court, and not the State's failure to produce evidence on each of the *Daubert* factors to support the validity of the science behind Y-STR testing. To the extent Britt's argument is preserved for review, we cannot say that the trial court abused its discretion in determining that Y-STR testing is a valid science that could be properly applied to the facts in this case.

In *Regions Bank ex rel. Estate of Harris v. Hagaman*, 79 Ark. App. 88, 84 S.W.3d 66 (2002), the appellants had sought to exclude an obstetrician's testimony that a doctor did not violate the standard of care for failing to instruct a nurse to apply suprapubic pressure to deliver a baby. The appellants argued on appeal that the trial court had erred in refusing to grant their motion in limine because Dr. Sandmire's testimony was not shown to be sufficiently reliable under *Daubert*. The crux of their argument was that Dr. Sandmire's opinions were not specifically supported by articles found in the medical literature. Although this court was reluctant to characterize the testimony as involving novel scientific evidence, we discussed *Daubert* and pointed out that publication was not a *sine qua non* of admissibility and did not necessarily correlate with reliability. In affirming the trial court's decision, this court further stated the following:

Appellants' view seems to be that the trial judge's duty is to apply the criteria mentioned in *Daubert* in a rigid fashion, with a view toward excluding questionable testimony. This is not the teaching of *Daubert* or its progeny.

The *Daubert* court made it clear that the basic standard of relevance provided in Rule 402 is a liberal one; that the inquiry envisioned by Rule 702 is a flexible one; and that the focus must be solely on principles and methodology, not on the conclusions they generate.

Id. at 95-96, 84 S.W.3d at 70.

According to *Daubert*, “[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.” 509 U.S. at 596. “These conventional devices, rather than wholesale exclusion under an uncompromising ‘general

acceptance’ test, are the appropriate safeguards where the basis of scientific testimony meets the standards of Rule 702.” *Id.* The trial court must have considerable leeway in deciding how to determine whether particular expert testimony is reliable. *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137 (1999). “Thus, whether *Daubert*’s specific factors are, or are not, reasonable measures of reliability in a particular case is a matter that the law grants the trial judge broad latitude to determine.” *Id.* at 153.

While neither Robinette’s nor Butler’s testimony covered all the *Daubert* factors, the trial court has discretion to determine which factors are reasonable measures of reliability. Even Britt’s expert could not deny that Y-STR testing is valid and legitimate science, and the State’s expert explained at trial about the national database, which is used with both Y-STR and autosomal DNA testing and said that it is the best methodology available. The trial court could have reasonably concluded that Y-STR testing “is not the sort of ‘junk science’ with which *Daubert* was concerned.” *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 153 (1997) (Stevens, J., concurring in part and dissenting in part); see *Hagaman*, 79 Ark. App. at 95, 84 S.W.3d at 70. Moreover, Britt was urged by the trial court to challenge the evidence at trial using the more traditional means, such as through cross-examination and the presentation of contrary evidence. We cannot say that the trial court abused its discretion in admitting evidence of Y-STR testing.

Affirmed.

KLAPPENBACH and WHITEAKER, JJ., agree.

Robert M. “Robby” Golden, for appellant.

Leslie Rutledge, Att’y Gen., by: Kent G. Holt, Ass’t Att’y Gen., for appellee.