

**SUPERIOR COURT OF THE DISTRICT OF COLUMBIA
CRIMINAL DIVISION – FELONY BRANCH**

UNITED STATES OF AMERICA	:	
	:	
v.	:	Case No. 2020 CF1 004432
	:	
RAVEL MILLS	:	

ORDER

The Court denies the government’s motion to preclude evidence of a defense analysis that excluded defendant Ravel Mills as a contributor to the minor components of DNA obtained from a firearm and a magazine. The government’s objections go to weight, not admissibility.

I. BACKGROUND

Mr. Mills is charged with first degree murder and related charges arising from the April 18, 2020 shooting death of Toussant Strong.

The DNA analysis that is the subject of the government’s motion involves a firearm and magazine that were recovered about a month after the murder. The firearm is linked to the murder by ballistics evidence. The government’s DNA analysis excluded Mr. Mills as a contributor to the major components of the DNA recovered from the firearm and magazine but did not exclude him as a contributor to the minor portions. Mr. Mills had the DNA tested by Cybergentics, which developed a probabilistic genotyping software called TrueAllele. Cybergentics’ analysis excluded Mr. Mills as a minor contributor to the two-person DNA mixture obtained from the firearm and the three-person mixture obtained from the magazine.

On June 2, 2023, the government filed a motion to preclude testimony that TrueAllele excluded Mr. Mills entirely from the DNA profiles obtained from the firearm and magazine. The government challenges only “the application of TrueAllele to the minor components of the mixtures obtained from the firearm and magazine,” and it does not oppose testimony that DNA

analysis excluded Mr. Mills as a major contributor to the firearm or a contributor to the two-person major portion of the mixture from the magazine. *See* Motion at 17.

On July 21, Mr. Mills filed an opposition. Among other things, the opposition attaches a declaration by Dr. Mark W. Perlin, the founder of Cybergenetics and the developer of the TrueAllele software.

II. LEGAL STANDARD

Motorola Inc. v. Murray, 147 A.3d 751 (D.C. 2016) (en banc) adopted Federal Rule of Evidence 702 as the standard for admission of expert testimony. Rule 702 provides:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

- (a) the expert’s scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- (b) the testimony is based on sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods; and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

Under Rule 702, “when a party proffers expert scientific testimony, the trial court must make ‘a preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue.’” *Motorola*, 147 A.3d at 754 (quoting *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 592-93 (1993)). However, “the trial judge’s more refined gatekeeping role” does not “displace the normal tools of the adversary system,” including “vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof.” *Motorola*, 147 A.3d at 754 (quoting *Daubert*, 509 U.S. at 596).

Daubert lists five factors that may be relevant to the reliability of an expert's opinion: "(1) whether the expert's technique or theory can be or has been tested; (2) whether the expert's technique or theory has been subject to peer review and publication; (3) the known or potential rate of error of the technique or theory when applied; (4) the existence and maintenance of standards and controls; and (5) whether the technique or theory has been generally accepted in the scientific community." *Daubert*, 509 U.S. at 593-94. However, "the test of reliability is 'flexible,' and *Daubert*'s list of specific factors neither necessarily nor exclusively applies to all experts or in every case." *Motorola*, 147 A.3d at 755 (quoting *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 141-42 (1999)).

"Rule 702 allows trial courts broad latitude and considerable leeway in deciding how to go about making the preliminary assessment of the reliability of proffered expert testimony." *See generally Lewis v. United States*, 263 A.3d 1049, 1060 (D.C. 2021) (cleaned up). "There is no particular procedure that the trial court is required to follow in executing its gatekeeping function under *Daubert*." *Id.* "Rule 702 and *Daubert* do not require a pretrial evidentiary hearing as long as the trial court has a sufficient evidentiary basis without it for its decision." *Id.*

"The burden is on the proponent of the testimony to show by a preponderance of the evidence that the proffered expert witness is qualified, that his proposed testimony would be useful to the finder of fact, and that the testimony is reliable." *Barnes v. District of Columbia*, 924 F. Supp. 2d 74, 94 (D.D.C. 2013).

III. DISCUSSION

Mr. Mills has carried his burden to show that the DNA witnesses whom he intends to call at trial are qualified, their proposed testimony would be useful to the jury, and the evidence is

reliable. The government's objections to a portion of the DNA testimony that Mr. Mills intends to offer go to weight, not admissibility, so the Court's denies its motion.

The government's argument is based on a study performed in 2015 by Dr. Perlin, who (as stated above) is the founder of Cybergenetics and the developer of the TrueAllele software. According to the government, this 2015 study shows that when TrueAllele is applied to "minor contributors that make up for less than 10 percent of the overall DNA present in a DNA sample of 1 ng shows that false exclusions occur at a very high rate, specifically between 18 and 60 percent of the time." Motion at 18.¹

However, Dr. Perlin states in his declaration that (1) his 2015 study involved the pre-2014 version of TrueAllele, (2) the error rate for the current version of TrueAllele, which was using for the firearm and magazine in this case, range from 0-5% (for minor contributors in the 1-10% range), and (3) the error rates for the conclusions in this case are 1 in 152 billion for the gun and 1 in 343 trillion for the firearm. Perlin Declaration at 10,-11. 13. Dr. Perlin also states that that the government's expert utilized the wrong LR cutoff rate for false negatives and incorrectly lumped together lower template mixtures with those that are much more complex. *Id.* at 14-15. In addition, Dr. Perlin states that (4) TrueAllele has been subjected to more than 40 validation studies, 8 of which were published in peer-reviewed scientific journals, (5) the current version of TrueAllele has withstood 35 *Daubert* challenges, and (6) DNA analysis based on TrueAllele has been used in tens of thousands of criminal cases, with the government relying on TrueAllele more than defendants. *Id.* at 6-9. The government did not file a reply and therefore gives the Court no basis to question Dr. Perlin's representations.

¹ Mr. Mills does not dispute that a scientific methodology with an error rate this high is not sufficiently reliable to satisfy the test for admissibility under Rule 702.

In these circumstances, the government's objections to the Cybergenetics analysis go to weight, not admissibility. The government can cross-examine any DNA expert called by Mr. Mills at trial about the reliability of the Cybergenetics analysis, including error rates for the version of the TrueAllele software used in this case. The government may also offer its own evidence about the reliability of the TrueAllele software.

In addition, the government argues that the Cybergenetics evidence should be precluded because "Cybergenetics concealed the unreliable nature of the evidence by not noting it in its report." Motion at 21. The government does not cite any authority for the proposition that any such concealment would be a basis for the sanction of precluding Mr. Mills from presenting this evidence. In any event, for the reasons explained above, the parties dispute the error rates for the TrueAllele software when applied to minor contributors, and Cybernetics was not obligated to include information relating to an earlier version of TrueAllele. Moreover, Cybergenetics included its own calculations of the error rates as proffered by the defense. *See* Perlin Declaration at 10, 10 (citing Case Packet at 156, 158).

At the very end of its motion, the government makes a conclusory request in the alternative for an evidentiary hearing. The Court exercises its discretion not to hold an evidentiary hearing. Just as a proposed expert's deposition can provide a sufficient basis for the Court's preliminary reliability assessment (*Lewis*, 263 A.3d at 1060-61), Dr. Perlin's declaration provides a sufficient basis in this case. As the Court notes above, the government did not challenge any of Dr. Perlin's representations in a reply.

IV. CONCLUSION

For these reasons, the Court denies the government's motion to preclude this evidence..

Anthony C Epstein

Anthony C. Epstein
Judge
Signed In Chambers

Date: August 3, 2023

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