

Short Form Order

SUPREME COURT - STATE OF NEW YORK
CRIMINAL TERM TAP C QUEENS COUNTY
125-01 Queens Boulevard, Kew Gardens, New York

P R E S E N T:

HON. ROBERT J. HANOPHY
Justice Supreme Court

	:	Ind. No. 917/2007
THE PEOPLE OF THE STATE OF NEW YORK	:	
	:	<u>Frye Hearing</u>
	:	
-against-	:	
HEMANT MEGNATH,	:	
_____	:	
Defendant.	:	
	:	

The following papers numbered
1 to 4 submitted in this motion

Todd Greenberg, Esq.
For the motion

Brad Leventhal, A.D.A.
Roni Piplani, A.D.A.
Opposed

Notice of Motion and Affidavits Annexed
Answering and Reply Affidavits

Papers Numbered
1-2

Upon the foregoing papers and in the opinion of the Court herein, the defendant's motion to exclude DNA evidence is denied for the reasons stated in the accompanying memorandum of this date.

GRANTED:

Date: February 8, 2010

Robert J. Hanophy, J.S.C.

MEMORANDUM

**SUPREME COURT, QUEENS COUNTY
CRIMINAL TERM, TAP C**

THE PEOPLE OF THE STATE OF NEW YORK

-against-

HEMANT MEGNATH,

Defendant.

: By: Robert J. Hanophy, J.S.C.
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: Dated: February 8, 2010
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: Ind. No. 917/07
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The defendant, Hemant Megnath, is charged under indictment number 917/07 with Murder in the First Degree and other related offenses. This Court conducted a Frye hearing on November 17 and 18, 2008, June 9, 10, 11, 15, and 16, 2009, August 18, 2009 and October 27, 2009. To sustain their burden of proof, the People called Dr. Theresa Caragine, Dr. Timothy Clayton, Dr. Peter Gill, Dr. Howard Baum and Dr. John Ballatyne. The defense called Dr. Dan Krane, Dr. Bruce Budowle, and Dr. Meshthild Chinz. The Court finds the testimony of these witnesses to be credible to the extent indicated in the accompanying memorandum and accordingly makes the following findings of facts and conclusions of law.

The defendant, Hemant Megnath, is charged in this indictment with Murder in the First Degree and other related offenses resulting from the alleged killing of a witness, Natasha Ramen. Natasha Ramen was a witness who was scheduled to testify against the defendant in a criminal case which was pending against the defendant at the time he allegedly killed her.

Pursuant to the police investigation in this case, a search warrant was executed upon the

defendant's automobile. Upon the execution of the warrant the police recovered various samples of DNA evidence which were tested by the Office of the Chief Medical Examiner (hereinafter referred to as the OCME). Upon testing the DNA evidence, the samples were found to contain DNA evidence linking the defendant to the commission of the murder.

Much of the DNA that was recovered in this case, was tested by the OCME using a type of DNA testing called Low Copy Number (hereinafter LCN) DNA analysis and some was tested using High Copy Number DNA testing or HCN DNA analysis. LCN DNA analysis as performed by the OCME uses a smaller sample of actual DNA evidence to test the evidence for DNA results than HCN DNA testing. Since in this case, some of the DNA evidence that was recovered from the defendant's automobile were small amounts, the OCME used the LCN DNA form of testing to yield some of the DNA results the People seek to introduce at trial.

Based upon the fact that LCN DNA testing was performed in this case, the defendant moved prior to trial for a hearing pursuant to Frye v. United States, 54 App. D.C. 46, 293 F. 1013 (1923) to establish the reliability and acceptance of LCN DNA testing within the relevant scientific community. This Court granted the defendant's request for a Frye hearing and based upon the testimony presented at this hearing, the Court makes the following findings of fact and conclusions of law.

FINDINGS OF FACT

In the present case, the Office of the Chief Medical Examiner of the City of New York or the OCME performed a type of DNA testing on several of the DNA samples recovered from the defendant's automobile using Low Copy Number (LCN) DNA analysis. LCN DNA analysis

differs from the more familiar type of DNA testing called High Copy Number (hereinafter HCN) DNA analysis, in that LCN DNA testing is conducted by increasing the number of times the DNA is amplified or more specifically by increasing the amplification cycle from 28 times as is used in HCN DNA testing to 31 cycles as is used in LCN DNA tests as performed by the OCME.

The scientific technique underlying LCN DNA testing therefore allows forensic scientists to use smaller amounts of DNA evidence to be tested. For example, LCN testing allows for a DNA profile to be obtained from physical evidence extracted from skin cells left on an object when an individual merely touches the object or some physical item. The LCN DNA technique or method of DNA analysis sensitizes the standard HCN DNA analysis that has been used by forensic scientists and admissible in court for more than 20 years.

LCN DNA testing is simply a more sensitive form of HCN DNA testing which uses the gold standard Polymerase Chain Reaction Short Tandem Repeat (PCRSTR) technique to identify a person's DNA profile. The OCME can perform LCN DNA testing on evidence samples of less than 200 picograms of DNA evidence. If more picograms of DNA evidence is recovered, the OCME can then perform the HCN DNA test analysis.*

The LCN DNA testing process uses the same procedures as HCN DNA testing. LCN DNA testing has been used both to identify bodily remains, old bones and artifacts, and LCN DNA testing has been used to determine birth defects during in vitro fertilization.

*** A single cell contains about six picograms of DNA. 200 picograms of DNA evidence equals approximately 33 cells.**

According to the evidence presented at the hearing, the scientific process that is utilized in the standard PCR STR typing or HCN DNA typing is essentially the same as the process used in LCN DNA testing, the principal difference merely being the number of amplification cycles and the manner in which the scientific data is interpreted when lesser amounts of DNA templates are tested using the LCN DNA method.

LCN DNA testing has been used worldwide for over 10 years and is currently used in many other countries including Australia, Austria, England, New Zealand, Italy, the Netherlands, Spain, Portugal and Switzerland. Based upon the LCN DNA techniques and protocol utilized in Europe and in other parts of the world, Dr. Theresa Caragine and other forensic scientists from the OCME began developing and generating DNA profiles in New York City from fingerprints or “touch DNA” samples using the techniques and interpretation protocols similar to those already in existence.

Dr. Caragine and other forensic scientists from the OCME also developed additional safeguards and conducted additional studies in the field of LCN DNA testing. They began measuring the extent of secondary and tertiary DNA transfer, for instance measuring DNA transfer from person to person and also DNA transfer from a person to an object to formulate accurate interpretation protocols for LCN DNA testing. In 2004 an entire laboratory was renovated in New York and devoted solely to the OCME to further develop LCN DNA testing. In 2007 a brand new scientific facility was built in New York’s OCME to accommodate the advances made in the area of LCN DNA testing.

During these years, Dr. Caragine and many other forensic scientists from the OCME conducted extensive validation studies of LCN DNA testing. The validation studies revealed that

the OCME methods and protocols of LCN DNA analysis yielded accurate results. The validation studies that were conducted were reviewed by the DNA subcommittee for the New York State Commission on Forensic Science and were implicitly found to be scientifically reliable and reproducible. The Commission therefore, granted the OCME permission to use LCN DNA testing in forensic casework.

As stated before, the type of DNA analysis that will be performed depends upon the amount and the type of evidence that requires testing. For example, HCN DNA analysis is generally used where DNA is extracted from semen, blood and saliva, but where the evidence consists of only skin cells or fingerprints the LCN DNA testing method as performed by the OCME can often be used to obtain a DNA profile.

A test of quantitation, which is the test that determines quantitatively how much DNA evidence is extracted from an evidence sample, will ultimately determine whether an HCN or LCN DNA analysis will be performed. If there is enough DNA obtained from a sample to conduct HCN DNA analysis, then the usual procedure is to conduct the HCN DNA analysis. However, where less than 200 picograms of DNA are present, LCN DNA analysis can be performed by the OCME to determine a DNA profile.

Once the DNA profile is obtained by the forensic scientists from the evidence sample tested by the OCME, the DNA profile may be either entered into existing local DNA databases where it may be compared to other known DNA profiles contained within those databases to determine if there is a DNA match, or the DNA profile can be compared to a known victim or a known suspect's DNA.

In this case, when the DNA results of the evidence recovered from the defendant's car

were compared to the victim's DNA, the victim's DNA was found to be consistent with the evidence recovered from the defendant's vehicle.

CONCLUSIONS OF LAW

The question of whether "low copy number" or LCN DNA testing satisfies the Frye standard of admissibility is an issue of first impression here in New York State. While the admissibility of LCN DNA testing has not yet been ruled upon by any other courts in New York, DNA profiling evidence has been admitted in the trial courts of New York for over 20 years. See, People v. Wesley, 83 N.Y.2d 417 (1994).

In Wesley, the Court of Appeals specifically held that DNA profiling evidence using the Restriction Fragment Length Polymorphism (RFLP) method of DNA profiling, which was one of the earliest forms of DNA testing, was found to have been scientifically reliable pursuant to the standard enunciated in Frye and therefore admissible in court. Wesley further held that DNA profiling evidence was generally accepted as reliable in the relevant forensic scientific community and that DNA profiling evidence can be introduced into evidence at trial. See, People v. Wesley, supra. It is therefore undisputed that DNA testing has been accepted in this State under the Frye standard since 1994. See, People v. Wesley, supra.

PCR testing, the type of DNA testing that is used for HCN and LCN DNA profiling is a nationally accepted method of DNA profiling. See, People v. Lee, 212 Mich. App. 228 (Mich. Ct. App. 1995); State v. Gentry, 888 P. 2d 1105 (Wash. 1995); State v. Johnson, 183 Ariz. 623 (Ariz. Ct. App. 1995); State v. Spencer, 663 S. 2d 271 (Ca. Ct. App. 1995), Harmon v. State, 908 P. 2d 434 (Alaska Ct. App. 1995); People v. Admundson, 48 Cal. App. 4th 788 (Cal. Ct. App. 1995); Seritt v. State, 647 So. 2d 1 (Ala. Crim. App. 1994). It is well-settled that PCR DNA typing is generally

accepted as reliable in both the legal and the scientific communities and clearly meets the Frye standard. See, People v. Wesley, supra.

PCR STR DNA typing, or High Copy Number (HCN) DNA analysis is now the standard or most typical method for performing DNA analysis. It is currently the most common type of DNA analysis performed among forensic scientists globally. The LCN method of DNA profiling that is specifically in issue in the present case, is basically the same method of DNA testing that occurs with HCN DNA testing. The only difference between the testing methods is that the LCN method can test smaller amounts of DNA by increasing the amplification cycles. Again, the steps that are used in the performance of HCN and LCN DNA testing are identical.

In HCN and LCN DNA testing, the same four steps for analysis are used. They are extraction, quantitation, amplification, and electrophoresis. In addition, many of the same scientific issues that arise in HCN DNA testing, such as stutter, allelic or locus drop-out, and allelic drop-in also occur in LCN DNA testing.

Since forensic scientists have long been familiar with the scientific issues or phenomena that arise in both HCN and LCN DNA testing, forensic scientists, including the OCME, have created interpretation protocols to account for these phenomena when they occur in both HCN and LCN DNA testing. While these phenomena might appear more frequently in LCN DNA typing, the OCME has implemented interpretation protocols to compensate for these occurrences. The interpretation protocols that were developed by the OCME to compensate for the scientific phenomena were formulated by the OCME based upon their extensive validation studies regarding LCN DNA testing.

The DNA testing equipment and machinery used to perform HCN and LCN DNA testing

are also the same for both the HCN and LCN DNA types of analysis. In addition, the Court finds that the credible evidence presented at the hearing established that the equipment and machinery used by the OCME is generally accepted as reliable in the forensic scientific community.

The rule established in Frye requires the proponent of new or novel scientific techniques to establish by sufficient evidence the general acceptance and reliability of the technique within the relevant scientific community. See, Frye v. United States, *supra*; People v. Wesley, 83 N.Y.2d *supra* at 417. Significantly, the scientific technique in question does not have to be unanimously accepted by the scientific community. Rather, it is the general acceptance of the reliability of the scientific technique by the scientific community that is relevant to the Court's determination pursuant to Frye. See also, People v. Middleton, 54 N.Y. 42 (1981). The Frye ruling dictates that a Court must concern itself with the general acceptability and reliability of the science in question, and not necessarily with the adequacy of the particular procedures used to generate the evidence to be admitted.

Here, the Court finds that the People clearly demonstrated, through sufficient credible evidence presented at the Frye hearing, that LCN DNA testing as performed by the New York OCME, is generally accepted as reliable in the forensic scientific community and meets the standard as enunciated in Frye. At the hearing, the People established through the credible evidence of five reputable forensic scientists, that the LCN DNA testing method as it is performed by the OCME and as it is interpreted by the OCME protocols, will consistently yield reliable results.

The evidence also established that the LCN DNA testing method, as used by the OCME, with its' increased amplification cycles has withstood the scrutiny of both external peer review in

the forensic scientific community and the critical internal validation studies which ultimately determine whether a laboratory's testing procedures are reproducible and reliable.

The Court also finds that the credible evidence presented at the hearing established that OCME validation studies regarding LCN DNA typing yielded reliable and reproducible results in 100 percent of the samples tested. The Court finds that the OCME has properly developed interpretation protocols for LCN DNA testing based upon their extensive validation studies and that when correctly performed these protocols consistently yield reliable and reproducible results.

While the defendant argues that the LCN DNA form of testing should be excluded under the Frye standard due to concerns such as transference, the increased incidence of allelic drop-out, drop-in, and stutter, as well as other alleged interpretation issues that the defendant claims may or may not arise when LCN DNA testing is performed, the Court finds that while these arguments are relevant as to the weight the trier of fact may wish to afford the proffered DNA evidence at trial, they do not affect the admissibility of the evidence for trial purposes pursuant to Frye.

The Frye inquiry is a separate and distinct inquiry from the admissibility question applied to the mere introduction of evidence. Pursuant to Frye, a Court must determine whether the scientific technique used is generally accepted as reliable within the relevant scientific community. See, Frye, supra; People v. Wesley, supra at 429. More specifically, Frye concerns itself with the general reliability of the scientific technique which is used within the relevant scientific community, as opposed to the propriety of the specific procedures followed to generate the proffered evidence. Similarly, Frye does not concern itself with the question of whether the party seeking the introduction of the evidence has established a proper foundation for the reception of the evidence at trial. See, Parker v. Mobil Oil Corp., supra; citing Wesley, supra at 429. Again,

these issues are relevant only as to the weight the trier of fact may or may not wish to afford the proffered scientific evidence and not relevant as to the question of the general acceptance of the scientific technique as reliable within the relevant scientific community.

Therefore, based upon all of the evidence presented to the Court during the hearing, the Court finds that the People have demonstrated by ample credible evidence that LCN DNA testing with its increased amplification cycles as performed by the New York City OCME clearly passes the standard enunciated in Frye, and therefore admissible at trial. See also, People v. LeGrand, 8 N.Y. 3d 449 (2007); People v. Wesley, supra; People v. Middleton 54 N.Y.2d 42 (1981).

Moreover, in addition to holding that the Frye standard of reliability has been met in this case, the Court also finds that the standard enunciated in Frye pertains only to *novel* scientific techniques. In this case, based upon the credible evidence presented at this hearing, the Court finds that LCN DNA profiling as conducted by the OCME is *not a novel* scientific technique.

DNA testing in the forensic community has been generally accepted as reliable for many years. It has also been found to be admissible under the Frye standard in New York Courts for over twenty (20) years. See, People v. Wesley, supra. The same analysis that is utilized in HCN DNA testing and which has been admitted nationally in our Courts for years, is basically the same type of DNA testing that is used when LCN DNA testing is performed by the OCME.

Since the LCN DNA method of testing as performed by the OCME is basically the same technique as HCN DNA testing, with the exception of its increased amplification cycles, the Court finds that LCN DNA testing as performed by the OCME is not a *novel* scientific technique for the purposes of the Frye inquiry.

Indeed, both the LCN and HCN forms of DNA testing require the same steps to be taken.

These steps, namely extraction, quantitation, amplification, and electrophoresis are virtually identical in both HCN and LCN DNA testing. Similarly, the same issues such as stutter, allelic drop out, or drop in occur in both forms of testing as well. In fact, the OCME has prepared and followed interpretation protocols for both HCN and LCN DNA testing to compensate for these scientific phenomena when and if they occur. These protocols were developed by the OCME based upon their validation studies and based upon similar protocols that have been used globally by other forensic scientists who perform HCN and LCN DNA testing.

Additionally, the machinery and equipment that is used by the forensic scientists in the OCME to conduct HCN and LCN DNA testing is the same. Furthermore, the Court finds that the People established that the machinery and equipment used by the OCME are generally accepted as reliable in the forensic scientific community.

Therefore, in addition to the Court finding that the People have met their burden of establishing that LCN DNA testing as conducted by the OCME is generally accepted as reliable in the forensic scientific community under the standard enunciated in Frye, the Court also finds that the People have shown that LCN DNA testing as performed by the OCME is *not a novel* scientific procedure within the scope of the Frye doctrine.

Accordingly, for all of the reasons stated above, the defendant's motion to exclude LCN DNA test results pursuant to Frye is denied in its entirety.

Accordingly, the defendant's motion is denied.

DATED: February 8, 2010

**_____
Robert J. Hanophy, J.S.C.**