Cybergenetics

Summer Newsletter 2025

Better Justice Through Better Science™

Newsflash

Cybergenetics News

Summer 2025

We hope you and your families had a safe, joyful, and restful summer, including July's Independence Day. When celebrating our country’s freedom – and the values that make America strong – we reflect on how these values align with Cybergenetics' mission of bringing truth and answers to complex DNA evidence.

We are proud that TrueAllele technology is the only probabilistic genotyping software developed in the United States. We help American communities solve DNA problems with American-made technology. TrueAllele gives labs, law enforcement, and courts across the country the information tools to interpret complex DNA evidence independently, accurately, and efficiently. We transform unreported "inconclusive" data into reliable DNA that makes a difference.

made in USA®

IHIA 2025

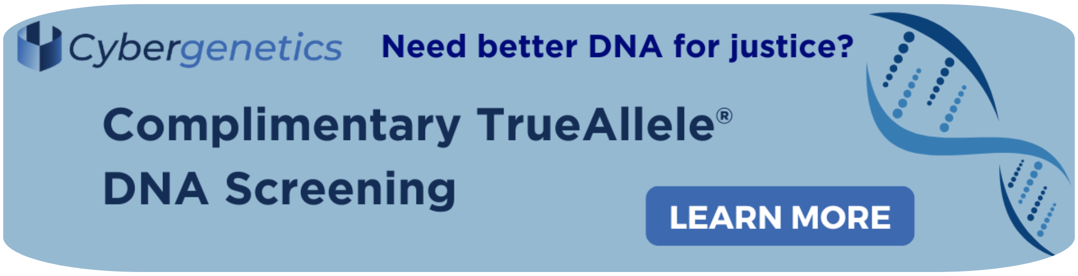
Prosecuting homicide with "inconclusive" DNA

Virginia was the first state in America to use TrueAllele – or any kind of probabilistic genotyping – in its forensic laboratory. Many of the earliest stories of how computers cracked "inconclusive" DNA mixtures in major crimes come from the Commonwealth.

On August 6, Chief Deputy Commonwealth's Attorney Nicole Wittmann (Loudoun, VA) and Cybergenetics Chief Scientist Dr. Mark Perlin (Pittsburgh, PA) spoke at the International Homicide Investigators Association (IHIA) training symposium in Louisville, KY. Their topic was *Prosecuting Homicide with "Inconclusive" DNA – Virginia Case Studies.*

Covering six horrific violent crimes (mainly murder), their two-hour presentation graphically taught police how TrueAllele computing made the forensic difference. Unreportable without TrueAllele, the computer consistently turned "uninterpretable" DNA into persuasive state's evidence, leading to consequential convictions.

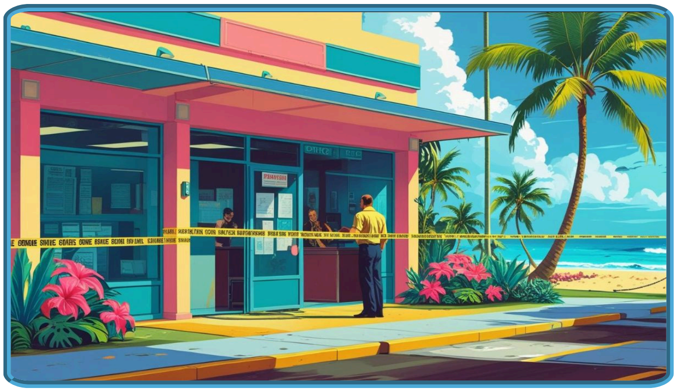
Bowman, Brady, Gardner, Castillo, Cellucci, Black. In case after Virginia case, the essential message was the same – when a lab says your DNA is "inconclusive," call Cybergenetics. A free TrueAllele look can completely revive your unreported DNA evidence.



Case Highlights

Honolulu homicide

Love, lies, and little DNA



In January 2022, acupuncturist Jon Tokuhara was shot and killed inside his Waipahu clinic. The police believed the tragedy stemmed from a deadly love triangle. Surveillance footage captured a man in the area wearing a Quicksilver bucket hat. As the suspect fled the scene, he dropped the hat, later recovered by a passerby. That one seemingly minor item became the crucial link to the killer.

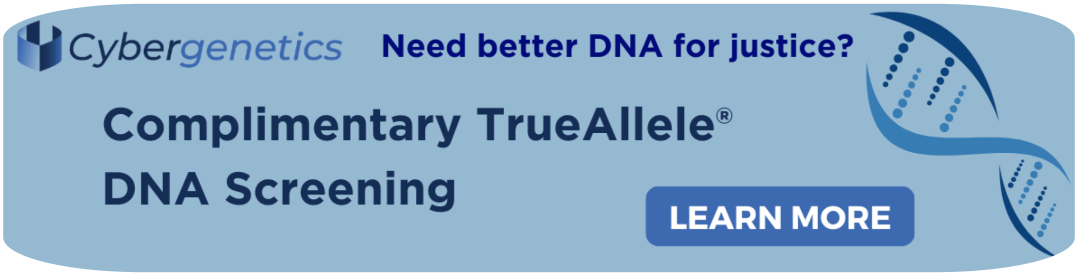
Cybergenetics analysts used TrueAllele to analyze the DNA recovered from the hat. The crime lab's DNA mixture interpretation protocols couldn't give an answer. But advanced TrueAllele computing assisted the prosecution, reliably connecting suspect Eric Thompson to the hat with a match statistic of 16.4 trillion. The error rate was one in 1.42 quadrillion.

In a 2024 pre-trial admissibility hearing, the defendant's lawyers challenged TrueAllele's reliability. They proffered specious claims, such as:

- Internal validation was required on the crime lab data.
- There was no known error rate on the DNA data.
- Cybergenetics shouldn't coauthor peer-reviewed articles.
- Source code was needed to assess reliability.

However, the facts, science and law weren't in their favor. On December 3, 2024, the judge ruled TrueAllele evidence admissible, affirming its scientific validity. The DNA results could be heard at trial. On February 25, the jury convicted Thompson of second-degree murder.

Honolulu Case

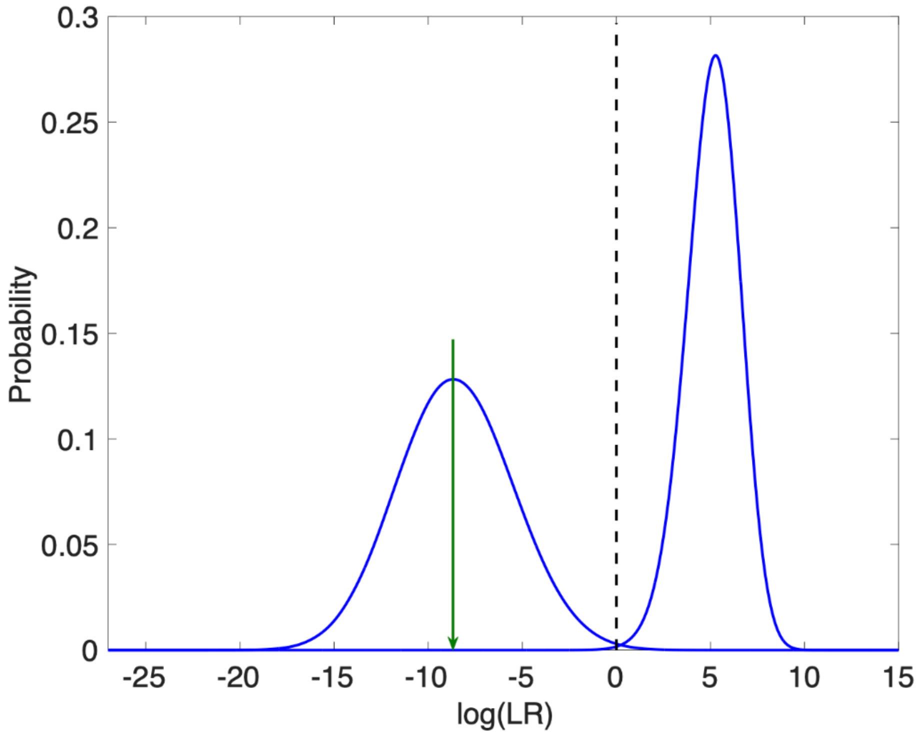


Wright exoneration

TrueAllele finds the answer

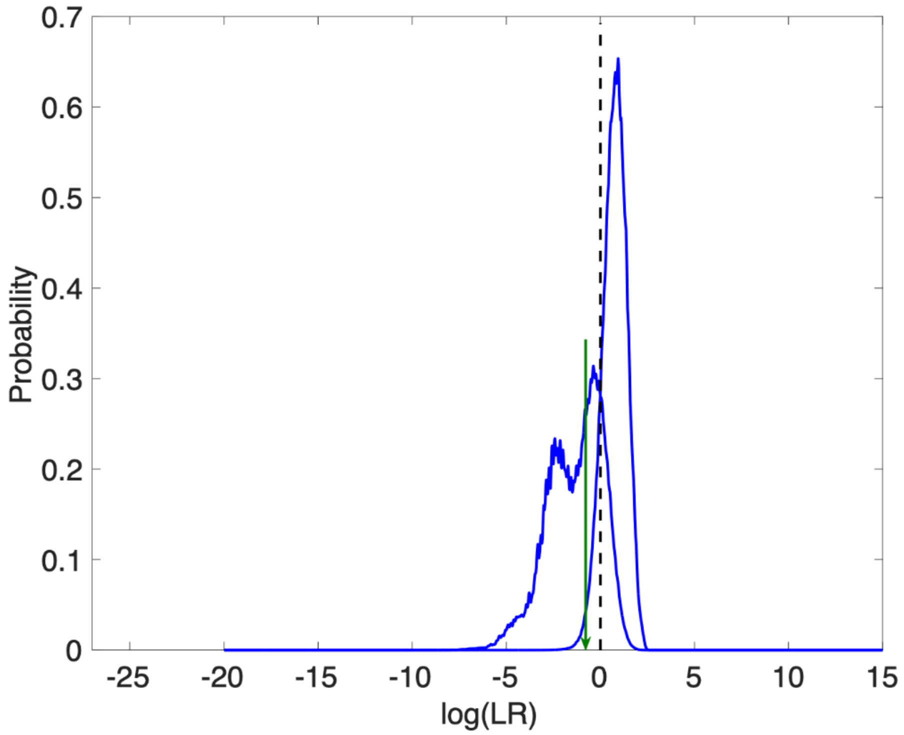
On August 21, wrongfully convicted Edward Wright was finally exonerated after 41 years in prison. The Commonwealth of Massachusetts filed a *Nolle Prosequi*, ending Mr. Wright's prosecution for the murder of Penny Anderson. Cybergenetics worked closely with the New England Innocence Project, using its powerful TrueAllele genotyping technology on key DNA items to provide new scientific evidence.

TrueAllele examined 230 data peaks across 23 genetic loci from a washcloth (10 peaks per locus). The computer found new exculpatory DNA evidence, producing a highly probative exclusionary match statistic of *one over 475 million*. The new data analysis established that neither Mr. Wright nor the deceased were present in the DNA mixture.



TrueAllele analysis. The TrueAllele distribution of LR match statistics for people who didn't contribute their DNA (left blue curve) is clearly separated from the contributor distribution (right blue curve). Wright's strong TrueAllele log(LR) statistic (green arrow) is in the center of noncontributor values (left), far from the contributors (right).

STRmix™ probabilistic genotyping software (PGS) was also used on the washcloth but failed to produce a meaningful answer. This other PGS examined just 12 data peaks across 8 loci (1.5 peaks per locus), insufficient for solving a two-person mixture. Its match misclassification error rate was 7.5%, producing an inconclusive match statistic of *one over 6.5* (about 100 million times less than TrueAllele's answer).



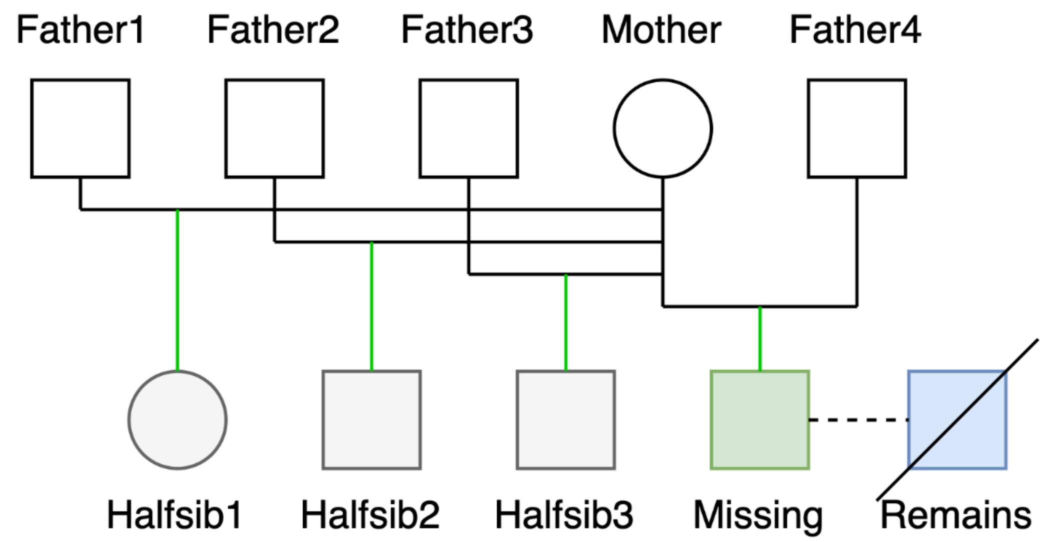
STRmix analysis. The less informative STRmix noncontributor (left) and contributor (right) LR distributions (blue curves) overlap. Wright's weak STRmix match statistic (green arrow) lies inconclusively in both distributions.

Exonerations

Technology Highlights

From nameless pauper to half-sib identification

Identifying a missing person without parental DNA is a complex challenge. In this South African case, the deceased was believed to be one of four half-siblings — all sharing the same mother, but each having a different father. There was reference DNA from the three half-siblings, but no parental DNA. Conventional kinship analysis wouldn't work.

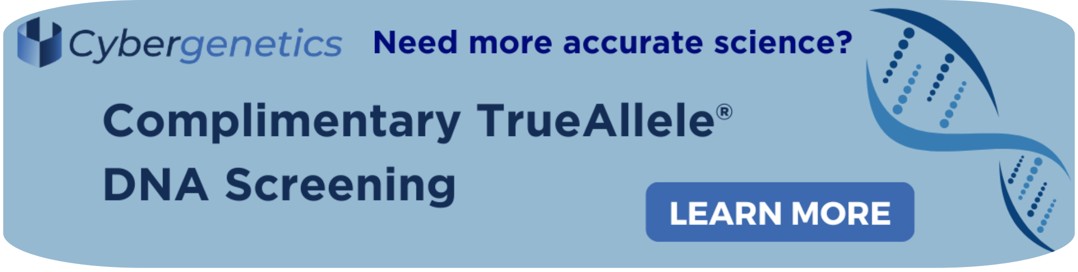


Family Pedigree. Each half-sibling has the same mother but a different father. Does the family's missing half-sibling (green) have the same DNA as the deceased's remains (blue)?

TrueAllele solved the problem. A Cybergenetics analyst statistically reconstructed the mother's genotype from her three children. And then inferred the missing child from the mother. Comparing the missing child's probabilistic genotype with the deceased individual, TrueAllele found a positive match.

Dr. Laura Heathfield, Associate Professor of Forensic Medicine at the University of Cape Town, said, “The deceased individual lay in the mortuary unidentified for over a year, and would have been buried as a nameless pauper had it not been for Cybergenetics' probabilistic genotyping. This case demonstrates the importance of the results obtained from the TrueAllele system, as it brought about a positive identification and much needed closure to a grieving family.”

Dr. Laura Heathfield



[User webinar]

[Solving a seven-person mixture]

Pumping a 7-person murder mixture for TrueAllele® information

Cybergenetics Webinar
User Gr[illegible] Meeting
Aug[illegible]025
Pittsburgh, PA

Matthew Legler
Cybergenetics, Pittsburgh, PA

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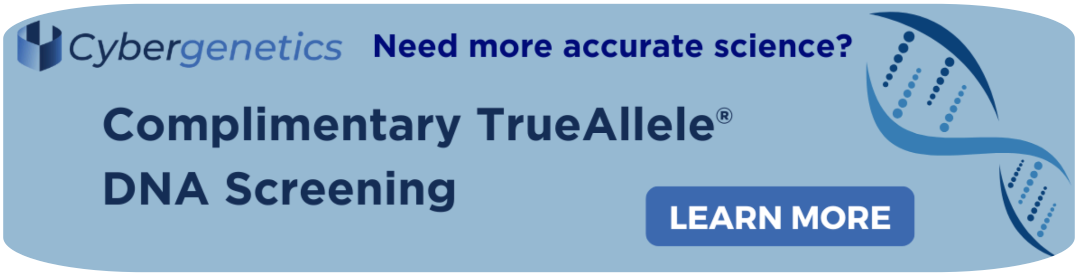
How do you solve a seven-person DNA mixture to find justice? Answer: use TrueAllele.

On April 7, 2014, Cleveland gas station attendant Babul Saha was killed by an armed gangster. Video surveillance footage showed the suspect had a white plastic bag. The crime lab said the bag's DNA mixture was "inconclusive due to too many contributors." But TrueAllele computing solved the 7-person DNA mixture, helping bring defendant Slater Howell III to justice.

On August 14, 2025, Cybergenetics Matthew Legler gave a 45-minute [TrueAllele user webinar] explaining how the computer solved this impossible (for other software) DNA mixture problem. He showed the challenging DNA data, and how Cybergenetics used TrueAllele. Matt told how "genotype concordance" produces reliable DNA match statistics and error rates. And how relevant validation studies support trial testimony.

On September 12, 2017, the jury found Howell guilty of all charges. He was later sentenced to life in prison for murdering Saha and a Cleveland firefighter.

Webinar



Video Feature

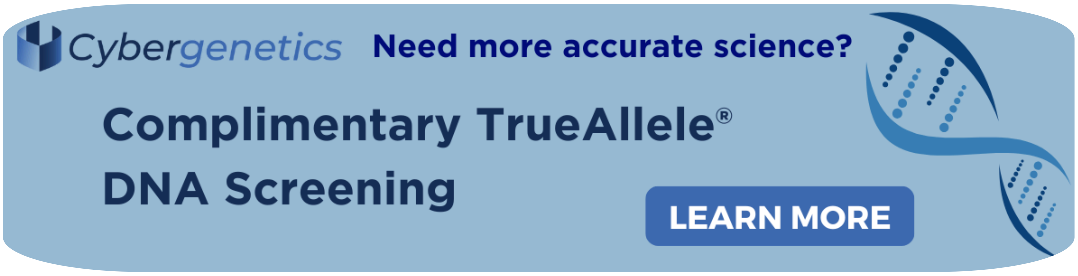
TrueAllele Database Solutions

DNA can tell the story of a crime—but complex, degraded, or mixed samples often go unused. TrueAllele Database changes that. This short video introduces three powerful matching solutions designed to help law enforcement and forensic scientists get more from their DNA data:

- Evidence-to-Evidence Matching links crime scenes and reveals serial patterns—even without suspects.

- Evidence-to-Reference Matching rapidly connects evidence to suspects, victims, or families to support charges and reduce lab backlogs.
- Reference-to-Reference Matching enables familial searches and detects contamination to protect lab integrity.

See how TrueAllele can turn “inconclusive” results into usable DNA evidence data that helps close cases, protect communities, and deliver justice.



Conferences

If you are attending upcoming conferences, stop by our booth to learn how TrueAllele interprets complex DNA evidence data that traditional methods can’t resolve. We'll share real case examples, explain how to request a free DNA screening, and answer questions about how TrueAllele supports investigations, defense strategies, and post-conviction reviews. Whether you're reexamining evidence or dealing with inconclusive lab results, we're here to help!

September

- MOCIC – *Mid-States Organized Crime Information Center 45th Annual Conference & Training Session*
    - Location: Kalahari Resort & Convention Center Wisconsin Dells, Wisconsin
    - Dates: September 9-11

At MOCIC, Lieutenant Chris Braman with the Winnebago County Sheriff's Office and Cybergenetics Forensic Analyst Kari Danser, MS will be presenting on Solving a DNA Cold Case with TrueAllele Technology.

October

- ILHIA – *Illinois Homicide Investigators Association Annual Conference*
    - Location: The Westin Chicago Northwest Hotel & Conference Center
    - Dates: October 14-16
- ROCIC – *Regional Organized Crime Information Center 34th Annual Homicide Conference*
    - Location: Doubletree by Hilton Hotel Austin, Texas
    - Dates: October 5-8

Stop by our booth to learn how TrueAllele technology can help you solve your most complex DNA cases.

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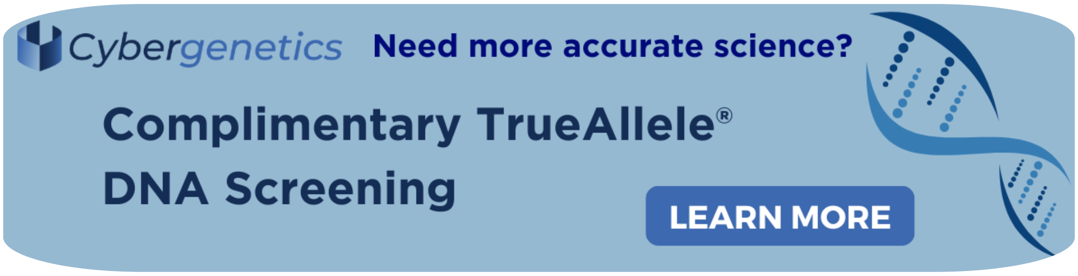

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